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# The Effects of Equity Sensitivity and Teamwork Self-Efficacy on Team Reward Preference

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A thesis submitted in partial fulfillment of the requirements for the degree in Master of Science

# THE EFFECTS OF EQUITY SENSITIVITY AND TEAMWORK SELF-EFFICACY ON TEAM REWARD PREFERENCE

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## Abstract

This investigation explored the extent to which individuals' teamwork self-efficacy moderated the relations between their equity sensitivity orientation and their team reward attitude. Two studies were conducted to examine this relation. The first examined the dimensionality of equity sensitivity, whereas the second examined the relation among the three constructs. Participants (N = 1455) completed a battery of questionnaires through an online testing process that included measures of equity sensitivity, teamwork self-efficacy, and team reward attitudes. Results of a confirmatory factor analysis showed that equity sensitivity is bidimensional, consisting of two factors: input and outcome orientation. Moreover, results showed that teamwork self-efficacy moderated the relation between the input and outcome orientation interaction when predicting an individual's attitude towards a team reward.



*Keywords*: compensation, teams, team rewards, equity theory, equity sensitivity, teamwork self-efficacy

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# The Effects of Equity Sensitivity and Teamwork Self-Efficacy on Team Reward Preference

Teams play an important role in organizations throughout Canada and the United States. The use of teams in organizations is partly due to the widely accepted assumption that teams are needed in order to perform increasingly complex tasks. Many organizational leaders therefore follow the ideology that incorporating teams into the complex structure of the organization will make the organization more successful (LaFasto & Larson, 2001). This phenomenon has changed the organizational landscape, as it appears that teams are now a prevalent, and consistent, part of most organizations. Therefore, for organizations to be effective within their domain, they are becoming increasingly reliant on the effectiveness of their teams.

Researchers have been trying to conceptualize team effectiveness for many years. In fact, McGrath (1964) introduced the first model, the Input-Process-Output (IPO) model, of team effectiveness over four decades ago. The IPO model has been the core of many of the early team effectiveness theories and models (Salas, Goodwin, & Burke, 2009) and focuses on the relations between inputs, processes, and outputs in teams and how they relate to make the teams effective. Using the IPO approach as a guide, Campion, Medsker, and Higgs (1993) developed a model of team effectiveness. Their model included nineteen input variables that they categorized into five themes. These five themes (i.e., job design, interdependence, composition, context, and process) were all found to be related to team effectiveness. It is of value to note that one of these five themes, interdependence, included variables such as task interdependence, goal interdependence, and *interdependent feedback and rewards*. Campion et al. (1993)

theorized that interdependent feedback and rewards motivated behaviour that is team oriented, therefore leading to team effectiveness. These findings were supported. A few years later, Campion, Pappei, and Medsker (1996) conducted a follow-up study and found similar results, providing support for compensating interdependent teams with a form of team-level rewards to be shared equally (e.g., gain sharing). These findings, however, have been called into question as they can unintentionally induce feelings of inequity in team members as well as create competition between teams (DeMatteo, Eby, & Sundstrom, 1998). Consequently, the empirical evidence that examines the relation between team rewards and group processes has been inconclusive. To improve our understanding of team rewards and group processes, DeMatteo et al. (1998) recommend that an increase in research investigating individual differences in team reward preference is a necessity.

The current research addresses this need and, in doing so, examines the role played by individual differences in equity sensitivity. Equity sensitivity is an individual difference that is based in Adams' (1965) equity theory. Equity theory posits that all individuals aspire to have their ratio of inputs and outcomes to be similar to that of relevant comparison others. Adams' (1965) refers to this desired balance as the 'norm of equity.' Research by Huseman, Hatfield, and Miles (1985) questioned this 'norm of equity' as their research in organizations found that individuals vary on what they perceive to be equitable. Further, they found that some individuals were more input focused while other individuals were more outcome focused, suggesting that some individuals differ in their reactions to equity-relevant situations in the workplace. More recent research has called into question the dimensionality of the construct, debating

whether it is unidimensional (Huseman et al., 1985) or bidimensional (Davison & Bing, 2008).

The current investigation has two purposes. First, I investigate the dimensionality of the equity sensitivity construct using confirmatory factor analysis. Second, I examine whether individual differences in equity sensitivity relate to individuals' preference for (i.e., attitude towards) a team reward. Furthermore, the second investigation examines whether any relation existing between equity sensitivity and team reward attitudes varies depending on the individuals' confidence in their ability to work well in a team (i.e., teamwork self-efficacy).

The subsequent sections introduce the theory and logic behind the current research investigation. First, a review and summary of the research on rewarding teams is presented to establish an understanding of the current state of the literature. Second, the individual-differences variable, equity sensitivity, is further discussed and its potential value is elucidated. Finally, teamwork self-efficacy is discussed as a potential moderator of the relation between equity sensitivity and team reward preference. After establishing the theoretical basis, two studies are presented that investigate the ensuing hypotheses.

## Rewarding Teams

The purpose of providing a compensation system is to motivate and reward employees for performing the tasks and job duties that the organization requires of them (Lawler, 2000; Rynes, Gerhart, & Parks, 2005). With the increase in teams in organizations, it is widely accepted in the compensation literature that organizations need to incorporate a method of rewarding teams (DeMatteo et al., 1998; Gross, 2000; Lafasto & Larson, 2001; Lawler, 2000; Levi, 2011; Welbourne & Gomez-Mejia, 2000).

Interestingly, since the end of the 20th century organizations have been decreasing their use of team rewards in their compensation systems (Long, 2010). Likely this is due to the lack of success organizations had when they initially began implementing team reward systems. Organizations began feeling the side effects of ineffective, unsystematic, and in general poorly designed team rewards, thus, they have decreased their use. As previously stated, when team reward systems are ineffective, they motivate competition between teams and can generate feelings of inequity between team members (e.g., free riding and social loafing; DeMatteo et al., 1998). For a team reward system to be effective, there are specific, identified characteristics that have shown to motivate teamwork, cohesion, commitment and information sharing, which are all important characteristics of effective teams (Levi, 2011). DeMatteo et al. (1998) discuss four factors that are integral to the effectiveness of a team-based reward system: organizational characteristics, team characteristics, individual-difference characteristics, and reward characteristics.

Although research has shown that organizational characteristics (e.g., DeMatteo et al., 1998; Gross, 2000; Lawler, 2000; Levi, 2011, Long, 2010, Milkovich, 1988) and team characteristics (e.g., DeMatteo et al., 1998; Harrison, Price, Gavin, & Florey, 2002; Hertel, Konrad, & Orlikowski, 2004; Lawler & Cohen, 1992; Levi, 2011, Long, 2010; Zenger & Marshall, 2000) play an important role in the design and implementation of a compensation system, the ultimate goal in compensation is to motivate, recruit, and retain employees (Long, 2010). To accomplish this, a compensation system must provide satisfaction to the individuals within the organization. Thus, in a team environment the goal of a team reward is to provide satisfaction to the team's members. Research has shown that individual differences (e.g., ability and personality) can influence an individual's satisfaction with a team reward (Cable & Judge, 1994; DeMatteo & Eby,

1997). Thus, individual characteristics may make a team reward system more or less attractive to certain individuals (DeMatteo et al., 1998). Therefore no matter how well designed or implemented a team reward system is, individual characteristics play an important role in the success of a team reward system.

**Individual Differences**

Limited research has been conducted on how individual differences can influence the effectiveness of a reward system (Gerhart & Milkovich, 1992; Shaw, Duffy, & Stark, 2001). Individual characteristics may lead some individuals to prefer a team-based reward while others may prefer an individual-based reward. In their review of team-based rewards, DeMatteo et al. (1998) identify and discuss two broad categories of individual difference characteristics that have shown to be related to team reward preferences: ability and personality.

Although the majority of research on high individual ability has been linked to team effectiveness (Futrell & Sundstrom, 1993; 1996), some researchers have argued that the top performer within a team, or the individual within the team with the highest ability, will be less satisfied with a team reward system (Loher, Vancouver, & Czajka, 1994). In support of this, Yamagishi (1988) found that high cognitive ability students working in teams were more inclined to leave the team to receive individual rewards. As well, Cable and Judge (1994) found that individuals with high self-efficacy preferred an individual reward while individuals with lower self-efficacy preferred a team reward. Furthermore, DeMatteo and Eby (1997) found that individuals who perceived they had higher ability than their teammates were less satisfied with receiving a team-based reward. Based on these findings, one might conclude that a team rewards system will lead to dissatisfaction and higher turnover among high ability individuals. In contrast, at the team level research

has shown that when the team leader and their staff are high in cognitive ability, they outperform teams who have a lower average cognitive ability when performing a decision making task (LePine, Hollenbeck, Ilgen, & Hedlund, 1997). Moreover, LePine et al. (1997) found that when team members were low in cognitive ability they were helped by their team members with higher cognitive ability. This finding suggests that higher ability at the team level leads to increased effectiveness. As a result, teams composed of higher ability individuals may be more satisfied with a team reward because their increased effectiveness should result in greater team reward size and frequency in comparison to a team that consists of lower ability team members (DeMatteo et al., 1998).

Research on personality in relation to job performance has come a long way since Guion and Gottier (1965) suggested that personality might not be an effective tool in personnel selection. More recently, researchers (e.g., Tett, Jackson, & Rothstein, 1991) have found that personality can play an important role in job performance. Now, personality is often considered another important employee attribute to consider when selecting employees (Allen & West, 2005; Kichuk & Wiesner, 1998) and developing a compensation system to attract the target labour force (Long, 2010). Thus, prior to selecting employees to work in a team environment where they would receive team rewards, it may be important to investigate the interplay among personality traits and attitudes toward team-based rewards. Although this subject has not received a lot of empirical attention (DeMatteo et al., 1998), some researchers have investigated these relations. For example, Cable and Judge (1994) found that individuals with high need for achievement were more attracted to jobs that have individual-based pay systems instead of team-based pay systems. Moreover, DeMatteo and Eby (1997) found that high scores on the individualism personality trait were negatively related to satisfaction with a team-

based reward, while high scores on the collectivism personality trait was positively related to satisfaction with a team-based reward. These findings should not be surprising as other researchers (e.g., Eby & Dobbins, 1997) have found that the greater number of collectivists on a team, the greater the amount of cooperative team behaviour and team performance, thus, increasing the size and frequency of obtained team-based rewards.

Moreover, Shaw et al. (2001) argue that individual characteristics (e.g., personality and experience working in a team) will influence individuals' attitudes towards (i.e., satisfaction with) a team reward. Accordingly, they developed a measure of a construct defined as a general evaluation of an individual's attitude toward receiving rewards based on their team's performance ("team reward attitude"). Individuals with a high score on their team reward attitude measure were characterized as having a preference for receiving a team-based reward whereas those with a low score were characterized as having a preference for an individual-based reward. Shaw et al. (2001) found that scores on their team reward attitude measure were positively related to perceived efficacy of teams and preference for working in teams.

**Reward Characteristics**

Although rewards have the potential to motivate individuals to increase performance, in many cases, they fail to do this - especially in organizations that are team based (Lawler, 1981). For any reward system to effectively motivate desired behaviours, it must be designed such that the specific desired behaviours are rewarded (Long, 2010). Thus, in a team environment a well-designed reward system must reward team-oriented behaviours (DeMatteo et al., 1998). Reward characteristics, such as amount of pay, frequency of payout, and reward allocation (i.e., either shared equally between members

or rewarding each individual separately), all play an important role in the effectiveness of a team-based reward system.

It is widely accepted that the amount and frequency of the payout are important reward characteristics in a team-based reward system, although little research has been conducted on either of these characteristics (DeMatteo et al., 1998). Even with this limitation, some conclusions can be drawn from the literature in regards to their importance in team rewards. In regards to the size of a team reward, Thornberg (1992) as well as Zenger and Marshall (1995) found similar results supporting the notion that an increase in team reward size would lead to an increase in team performance. Moreover, Dulebohn and Martocchio (1998) found that the size of a team incentive payout was not related to individual perceptions of either distributive or procedural justice. It therefore appears that larger team rewards may increase team performance, while having no ill effects on individuals' perceptions of justice in the workplace.

The temporal aspect (i.e., frequency) of a team reward must also be considered. At the individual level, the more consistent the connection is between the reward and performance, the greater motivator the reward is (Goodman & Dean, 1982). Drawing from findings at the individual level, DeMatteo et al. (1998) and Lawler (2000) recommended that team rewards be administered when team members receive feedback on their team's performance, thus, directly linking their performance with the reward. More research on team reward characteristics is required, however, as there is currently no "magic formula" to determine the size and frequency of team rewards that will be most effective when motivating employees (Lawler, 1981).

The majority of research on team-based rewards has focused heavily on how the distribution of the rewards, either equally (across team members and based on team

performance; i.e., a team-based reward) or individually (in accordance with an individual's performance within the team), motivates behaviours within a team (DeMatteo et al., 1998). Both reward allocation methods have both positive and negative attributes (Pearsall, Christian, & Ellis, 2010). For example, individual rewards in teams provide higher satisfaction, but have not been shown to motivate team members to work interdependently and to assist each other (De Dreu, 2007). On the other hand, team rewards have shown to motivate individuals to work interdependently and improve interactions between members, but may increase the occurrence of free riding (Welbourne & Gomez-Mejia, 2000). The general consensus among researchers is that equally distributed team rewards are preferable to individual-based team rewards because team-based rewards help promote team-oriented behaviours (DeMatteo et al., 1998; Lawler, 2000; Levi, 2011).

The literature comparing the effectiveness of team-based vs. individual-based rewards has focused mainly on how rewards relate to team-level variables (i.e., team performance). Individual-level variables have received less empirical attention (DeMatteo et al., 1998). Yet, just because a team is performing well does not necessarily mean a team member will be satisfied with receiving a team reward. Therefore, it is critical to investigate individual characteristics that may cause individuals to be less satisfied with either reward distribution method. As previously mentioned, individuals with low satisfaction with a reward allocation method can negatively affect employee recruitment and retention as they do not find the method to be equitable (DeMatteo et al., 1998). Further, individuals may be sensitive to the issue of what is an equitable method of distributing rewards to a team. Thus, it is argued here that individual differences in

equity sensitivity will affect an individual's preference for, and attitude towards, receiving either a team-based or individual-based reward.

## Equity Sensitivity

Adams' (1963; 1965) equity theory posits that individuals are motivated by a sense of fairness and will feel distress when being either under-rewarded or over-rewarded. Equity theory draws from other theories, such as social comparison theory (Festinger, 1954) and cognitive dissonance theory (Festinger, 1957), to predict how individuals perceive fairness in interpersonal relationships. The feeling of distress is based on what has been termed the "norm of equity" (Carrell & Dittrich, 1978; Walster, Walster, & Berscheid, 1978). Adams (1963; 1965) theorized that all individuals are equivalently sensitive to equity and that individuals prefer that their ratio of inputs to outcomes be equal to that of comparison others. While both laboratory and field studies have shown support for this norm, other empirical research has questioned whether there might not be individual differences in the endorsement of the norm of equity (Huseman et al., 1985; 1987).

Until the late eighties, this particular individual difference had received little empirical attention. Research by Huseman et al. (1985) reported evidence suggesting individual differences in how strongly people endorsed the "norm" of equity. Thus, Huseman et al. (1987) sought to conceptualize reactions to equity-relevant situations and introduced a new construct: equity sensitivity.

The original proposed equity sensitivity construct was defined as a single personality trait that involved three categories based on an individual's outcome-to-input ratios. The first category consists of "benevolent" individuals. These are individuals who

prefer their outcome-to-input ratio to be lower than the comparison other, overall preferring to give more than they receive in comparison to others around them. The second category consists of individuals who are "equity sensitive". These are individuals who adhere most closely to the "norm" of equity, previously described, and prefer their outcome-to-input ratio to be the same or similar to the comparison other. The third and final category includes "entitled" individuals who prefer their outcome-to-input ratio to be higher than the comparison other. In general, entitled individuals prefer to get more than they give in comparison to relevant others (Huseman et al., 1987).

Equity sensitivity was theorized as being paramount in the understanding of individual differences in organizations (Huseman et al., 1987). More importantly, it was theorized to be directly related to individual differences in organizational outcomes such as reward systems (Miles, Hatfield, & Huseman, 1989). While equity theory would theorize that any individual who is being over-rewarded would feel distress, the equity sensitivity construct suggests that benevolent and equity sensitive individuals would feel distress, and entitled individuals would not feel any distress, but rather would find a feeling of comfort when being over-rewarded (Huseman et al., 1987). For example, Miles et al. (1989) found that benevolent individuals were more likely to work hard for less pay than equity sensitive individuals and entitled individuals. Moreover, Miles, Hatfield, and Huseman (1994) found that the benevolent, equity sensitive, and entitled individuals all differed in extrinsic reward preferences. Equity sensitivity has also shown to be effective in increasing the ability to predict satisfaction in the workplace (O'Neill & Mone, 1998).

To measure the trait of equity sensitivity, Huseman et al. (1987) developed the Equity Sensitivity Instrument (ESI), a five-item measure that includes two response options (one benevolent response and one entitled response) for each of the five

statements. Individuals completing the instrument are required to distribute a total of ten points between the two responses. A sample question is "It is more important for me to: A. Get from the organization, B. Give to the organization". To assign individuals to each category, the mean score is calculated by summing the total score of the benevolent responses for each item (Huseman, Hatfield, & Miles, 1985). The mean score is then calculated and scores that are half a standard deviation above the mean are considered benevolent while scores half a standard deviation below the mean are considered entitled. While the ESI has been the most frequently utilized measure of equity sensitivity, more recently researchers have criticized the ESI for poor item development, item ambiguity, sample-specific scoring, and a lack of content validity (Sauley & Bedeian, 2000).

The criticisms of the ESI lead to the development of the Equity Preference Questionnaire (EPQ), a 16-item measure of equity sensitivity developed by Sauley and Bedeian (2000). In an attempt to improve on many of the issues associated with the validity and reliability of the ESI, the EPQ was developed using a more systematic item-development process. Over a series of six studies, Sauley and Bedeian (2000) developed the validity and reliability of the EPQ, resulting in a final version that consists of 8 benevolent items and 8 entitled items measured using a Likert scale. Research investigating the psychometric properties of the ESI and the EPQ has generally concluded that the EPQ is a more valid and reliable measure of the equity sensitivity construct (Shore & Straus, 2008; Wheeler, 2007).

Equity sensitivity was originally conceptualized as a unidimensional personality trait denoting how sensitive an individual is to being over-rewarded or under-rewarded in the workplace (Huseman et al., 1987). More recently, the conceptualization of equity sensitivity as being unidimensional has come under debate (Clark, Foote, Clark, & Lewis,

2010; Davison & Bing, 2008; Miller, 2009; Shore & Strauss, 2008; Taylor, Kluemper, & Sauley, 2009). Davison and Bing (2008) investigated the dimensionality of equity sensitivity and found that individuals' benevolent (input oriented) scores were only moderately related to their entitlement (outcome oriented) scores. As a result, they argued that equity sensitivity is a construct consisting of two dimensions: inputs and outcomes (See Figure 1). Furthermore, they proposed that benevolent individuals are high on inputs and low on outcomes, entitled individuals are low on inputs and high on outcomes, and that equity sensitives are high on both inputs and outcomes. Moreover, Davison and Bing (2008) argue that other individuals may be low on both inputs and outcomes, identifying these individuals as equity indifferents.

Miller (2009) also found empirical support for the bidimensional approach to equity sensitivity after performing a confirmatory factor analysis on the EPQ. He found a better fit for a two-factor model of equity sensitivity over a single factor model across two different samples. As well, it was found that the benevolent items (e.g., "At work, my greatest concern is whether or not I am doing the best job I can") loaded on an input factor and the entitled items (e.g., "It is really satisfying to me when I can get something for nothing at work") loaded on an outcome factor. While this research supports the bidimensional approach to equity sensitivity, some recent researchers continue to investigate the construct using a unidimensional approach (e.g., Akan, Allen, & White, 2009; Hutter & Diehl, 2011), potentially limiting the validity of their findings. Thus, the first goal of the current research is to investigate the dimensionality of equity sensitivity using a confirmatory factor analysis. Based on the aforementioned research that examined the dimensionality of equity sensitivity, the following is proposed:

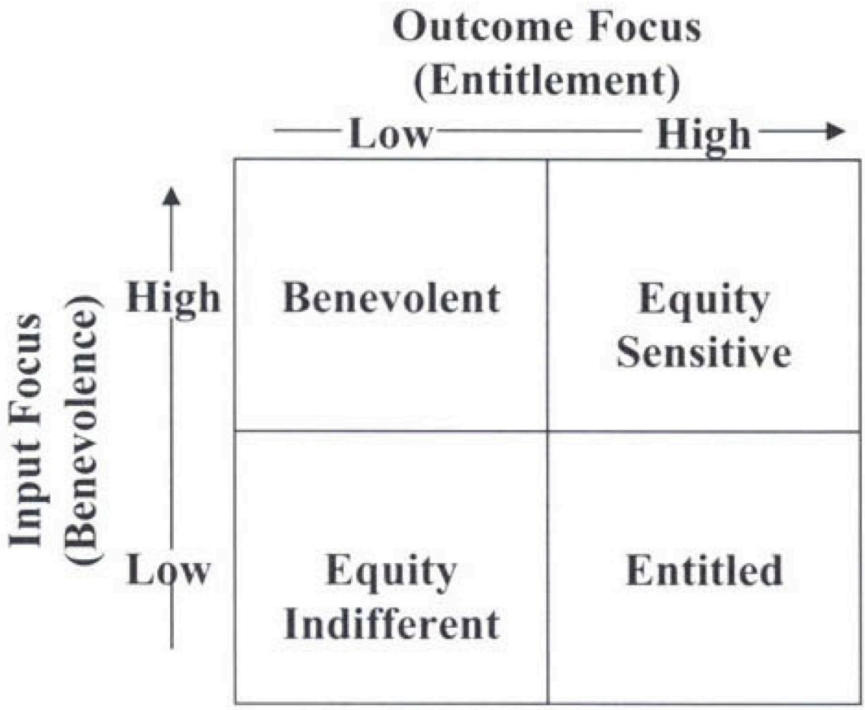


*Figure 1.* Diagram of the four hypothetical equity sensitivity orientations (Davison & Bing, 2008).

*Hypothesis 1: Equity sensitivity is a bidimensional construct that consists of both an input orientation dimension and an output orientation dimension.*

Miller (2009) found that the two input and outcome factors were negatively correlated with each other when modeling equity sensitivity as bidimensional. This finding is similar to the original findings of Huseman, Hatfield, and Miles (1987) who proposed that input-oriented individuals (i.e., benevolents) are negatively related to outcome-oriented individuals (i.e., entitleds) when examining workplace equity. Thus, the following is proposed:

*Hypothesis 2: Scores on the input dimension will be negatively related to scores on the outcome dimension.*

Although researchers have investigated equity sensitivity and its relation to individual-level variables such as organizational justice, organizational citizenship behaviour, and personality (Blakely, Andrews, & Moorman, 2005; Scott & Colquitt, 2007), little research has examined the role that equity sensitivity might play in a team context (e.g., Akan et al., 2009; Hutter & Diehl, 2011). For example, researchers have not investigated the role of equity sensitivity in relation to an individual's satisfaction with a team reward. Considering that equity sensitivity is theorized to measure individual differences in perception of equity, it is logical to assume that equity sensitivity would be an individual difference that would affect an individuals' preference for either a team-based reward or an individual-based reward.

## Equity Sensitivity and Team Reward Attitude

In their review of the team-rewards literature, DeMatteo et al. (1998) made two key comments. First, the authors state that there has not been enough research on the impact of individual differences on the effectiveness of a team reward. Second, they argue that reward characteristics (e.g., shared vs. individual distribution) are integral to the effectiveness of a team reward system. In what follows, theory and hypotheses presenting the potential relations between equity sensitivity and team reward attitudes will be discussed.

A bidimensional approach to equity sensitivity will be used to theorize relations among equity sensitivity, team reward preference and teamwork self-efficacy. Whether these hypotheses will be tested is contingent, however, on the results of the first analysis, which investigates Hypotheses 1 and 2. Based on the previously discussed research on equity sensitivity, is it proposed that the two dimensions of equity sensitivity are input and outcome orientation. It is theorized that individuals vary on each dimension and, although the dimensions are related, they have unique characteristics.

### Outcome Orientation

Individuals who are outcome oriented can be considered “getters” as they focus heavily on what they can get from their work environment (Davison & Bing, 2008). Outcome-oriented individuals focus on obtaining outcomes from their organization. Thus, they are particularly interested in, and motivated by receiving compensation. Outcome-oriented individuals are therefore focused heavily on what they can obtain, striving to maximize these outcomes. Because a team reward is an outcome in itself, it is therefore theorized that outcome oriented individuals will show a preference for receiving a team reward because it is an outcome. Thus, the following is hypothesized:

*Hypothesis 3: Outcome orientation will be positively correlated with individuals' attitude towards a team reward.*

**Input Orientation**

The input dimension of equity sensitivity measures individuals' focus on what they can input to their work environment. Individuals who are high in input orientation can be considered "givers" as they focus heavily on what inputs they can bring to the work situation (Davison & Bing, 2008). Input orientation examines individuals' willingness to give to their work environment (i.e., high input oriented individuals give more to their work environment than low input oriented individuals). Input orientation only measures individuals' behavioural regularities in regards to giving to their work environment. Although input and outcome orientation are proposed to be (negatively) related, the input orientation dimension is only concerned with behaviours that individuals perform in regards to giving to the organization, and does not concern what an individual gets from the organization in return. Whereas outcome orientation examines individuals' extrinsic motivation, input orientation examines individuals' intrinsic motivation (e.g., helping and aiding team members). To restate, outcome oriented individuals focus on what they can obtain, whereas input oriented individuals focus on what they can attain. It is therefore theorized that input orientation does not concern or address individuals' preference for an outcome (e.g., a team reward), thus, no hypothesis is proposed.

**The Interaction Between Input and Outcome Orientation**

As depicted in Figure 1, it is theorized that input and outcome orientation will interact with each other to identify individuals who are either high or low on either dimension, resulting in the four equity sensitivity orientations (i.e., equity sensitives, entitleds, benevolents, and equity indifferents) presented by Davison and Bing (2008). Moreover, because the current theory is focused on team rewards, which are an outcome, the relations between equity sensitivity and team rewards will mainly focus on discussing and comparing individuals who are high on outcome orientation (i.e., equity sensitives and entitled) with each other, as well as comparing individuals who are low on outcome orientation (i.e., benevolents and equity indifferents) with each other.

Since benevolents and equity indifferents are both low in outcome orientation, it is proposed that they will show a similar preference (or lack thereof) for a team reward regardless of their input orientation. Equity sensitives and entitleds, on the other hand, are both high in outcome orientation, but are theorized to have differing preferences towards a team reward. Equity sensitives are theorized to be high in justice and fairness (Davison & Bing, 2008). Thus, when working in a team, they should have the most positive attitude towards a team reward because these individuals will perceive it as the fairest type of reward. In addition, entitleds are not input oriented. It can be argued that entitleds will be less satisfied with a team reward in comparison to equity sensitives because working in a team requires all team members to give (i.e., input) to the team for the team to be successful and obtain a team reward. It is therefore argued that equity sensitives have a more positive attitude towards a team reward in comparison to entitleds. Based on this approach, the following is hypothesized:

*Hypothesis 4: Input and outcome orientation will interact when predicting an individual's preference for a team reward such that relation between input orientation and team reward preference will be stronger when outcome orientation is high.*

## Teamwork Self-Efficacy

Bandura (1997; 2006) defines self-efficacy as an individual's confidence in his or her ability to perform well in a specific domain. The current investigation focuses on teamwork self-efficacy -- that is, the extent to which individuals are confident in their ability to work in a team.

### Teamwork Self-Efficacy and Team Reward Attitude

Efficacy has shown to be positively related to performance in a variety of domains (e.g., computer skills self-efficacy; Compeau & Higgins, 1995; academic self-efficacy; Multon, Brown, & Lent, 1991; and job self-efficacy; Stajkovic & Luthans, 1998). Commensurate with these findings, teamwork self-efficacy has shown to be positively related to team effectiveness (De Jong, Bouhuys, & Barnhoorn, 1999; Staples & Webster, 2007), although this research is minimal. Following suit, teams that are more effective are also more likely to earn a team reward since team rewards are ideally based on team performance (i.e., team effectiveness). It is therefore theorized that individuals who are confident in their ability to work well in a team are more likely to earn a team reward and, as a result, will have a more positive attitude towards receiving a team reward. Thus, the following is hypothesized:

*Hypothesis 5: Teamwork self-efficacy will be positively correlated with team reward attitude.*

**Outcome Orientation and Teamwork Self-efficacy**

As previously discussed, outcome oriented individuals are focused on what they can obtain from their organization. Thus, when working in a team, outcome-orientated individuals are only concerned with the outcomes (e.g., team rewards) that are obtained while functioning in a team. Teamwork self-efficacy, as previously defined, is an individual's confidence in their ability to perform well in a team. Furthermore, to perform well in a team an individual must input as much as they can and sacrifice individual needs for overall team effectiveness. However, self-efficacy for teamwork, as a construct, does not pertain to the obtainment of an outcome. Thus, it is theorized that outcome orientation and an individual's confidence in their ability to work in a team will be unrelated. Therefore, no hypothesis is proposed.

**Input Orientation and Teamwork Self-efficacy**

Individuals who are input oriented, as previously discussed, focus on what they give to their workplace. Thus, in a team environment it is argued that input-oriented individuals are more likely to give to their teammates, share information, and contribute to the team in general. In support of this theory, Akan et al. (2009) examined equity sensitivity and organizational citizenship behaviours in student project teams. Akan et al. (2009) found that input oriented individuals were more likely to be rated high on organizational citizenship behaviours than outcome oriented individuals. Although little research has been performed in this area, it is possible to theorize that input-oriented

individuals are aware that inputs are important to team success and thus, will be more confident in their ability to perform well in a team. Thus, the following is hypothesized:

*Hypothesis 6: Input orientation will be positively correlated with teamwork self-efficacy.*

**Input Orientation, Outcome Orientation, and Teamwork Self-Efficacy**

As previously discussed, the interaction between input and outcome orientation can be used to identify the four types of equity sensitivity orientations. To review, these orientations are equity sensitives (high input and high outcome orientation), entitleds (high input and low outcome orientation), benevolents (high input and low outcome orientation), and equity indifferents (low input and low outcome orientation). It has been theorized herein that each of these four equity sensitivity orientation types will differ in their preference for a team reward (i.e., input and outcome orientation will interact when predicting attitudes towards a team reward). In addition, it is argued that for certain types of equity sensitivity orientation, their preference for a team reward will vary depending on their confidence in their ability to perform well in a team. Thus, the following is hypothesized:

*Hypothesis 7: The relation between individuals' equity sensitivity orientation and their attitude towards a team reward will vary depending on individuals' confidence in their ability to perform well in a team.*

To explain the proposed shape of the three-way interaction, the following sections will be divided such that each of the four aforementioned equity sensitive orientations

(i.e., equity sensitives, entitleds, benevolents, and equity indifferents), and their relations with teamwork self-efficacy, will be addressed individually. As well, sub-hypotheses will be proposed to explain the expected shape of the interaction based on the described theory. First, the two high outcome-orientated individuals (i.e., equity sensitives and entitleds) will be discussed, followed by the two low outcome-oriented individuals (i.e., benevolents and equity indifferents).

**Equity Sensitives.** As was stated herein, equity sensitive individuals have both a high input and a high outcome orientation. These individuals are motivated by both intrinsic and extrinsic rewards, and strive to both give a lot and get a lot from their organization. Ergo, these individuals are going to put a lot into their work environment and believe it is only fair that they get rewarded appropriately for their efforts. As a result, it is theorized that fairness and equity are very important to these individuals. Therefore, while working in a team that receives performance feedback and results at the team level, equity sensitive individuals should be more likely to perceive receiving a team reward as fair. Whether or not they are confident in their ability to work well in a team is not important for an equity sensitive individual. A team reward, for these individuals, is what is fair for the team and they will try their best to obtain that reward. Thus, it is theorized that equity sensitives' attitude towards a team reward will not change whether they are confidence in their ability to perform well in a team or not.

**Entitleds.** Entitled individuals, on the other hand, are strictly outcome focused. These individuals seek to increase their outcomes in their workplace by any means. Therefore, an entitled individual who is confident in their ability to work well in a team should increase their opportunity to obtain a team reward by ideally improving the team's performance. Based on this approach, it is proposed that an entitled individual will show

an increased preference for a team reward at high levels of teamwork self-efficacy in comparison to lower levels of teamwork self-efficacy. Thus, the following is hypothesized:

*Hypothesis 7a: Teamwork self-efficacy will moderate the relation between entitleds and team reward preference such that entitleds will show a greater preference for team rewards at high levels of teamwork self-efficacy.*

**Benevolents.** Benevolent individuals are considered to be high on input orientation and low on outcome orientation. As a result, these individual are less concerned with team rewards as they are an outcome and not particularly of their interest. But, it is argued that these rewards can become of interest if they can be an extension of the inputs that a benevolent provides to their team. As discussed previously, benevolent individuals are input oriented and strive to give as much to their organization and their workplace as possible. As a result, when working in a team environment, their goal is to give to their team (e.g., through their knowledge, skills, and abilities) such that they will help improve team effectiveness. Moreover, if a benevolent individual is high in teamwork self-efficacy, they should be able to increase their team's ability obtain a team reward. The team reward will now become another input that the benevolent is able to provide to their team (i.e., they give the team a greater opportunity to obtain the team reward). Thus, the following is hypothesized:

*Hypothesis 7b: Teamwork self-efficacy will moderate the relation between benevolents and team reward preference such that benevolents will show a greater preference for team rewards at high levels of teamwork self-efficacy.*

**Equity Indifferents.** Equity indifferent individuals are theorized as being low on both input and outcome orientation. As a result, equity indifferents are considered to be individuals who are unmotivated, have no desire to give to their organization, and lack any concern for what they are getting from their organization. Therefore, whether these individuals are confident in their ability to perform well in a team does not matter because they are not interesting in giving to the team. As well, these individuals have little interest in receiving outcomes such as team rewards from their organizations. Thus, it is theorized that for these individuals their preference for a team reward will not vary across levels of teamwork self-efficacy. As a result, no hypothesis is proposed.

## Method

### Participants

A total of 1455 undergraduate students from a university in southwestern Ontario participated in the current study investigation. The mean age for participants was 18 years, with ages ranging from 15 to 43 years (97 participants did not report their age). The majority of participants (947; 65%) identified themselves as females, 498 (34%) of the participants identified themselves as males and 10 (1%) chose not to provide their gender. Most participants identified themselves as being either of Caucasian (845 individuals; 58%) or East Asian (368 individuals; 25%) descent; 105 (7%) individuals identified themselves as of either African, Hispanic, or South Asian descent. The

remaining 137 (9%) participants selected "Other" or chose not to specify their ethnicity. For all participants, course credit was obtained for completing the battery of individual difference questionnaires.

**Measures**

**Equity Sensitivity.** The equity sensitivity of the participants was measured using the Equity Preference Questionnaire developed by Sauley and Bedeian (2000). The EPQ consists of 16 items including 8 positively keyed items and 8 negatively keyed items (see Appendix A). These items were responded to on a five-point Likert-type agreement scale (1 = Strongly Disagree, 5 = Strongly Agree). An example of a positively keyed item is "I would become very dissatisfied with my job if I had little or no work to do." An example of a negatively keyed item is "It is really satisfying to me when I can get something for nothing at work." In general, researchers have found the EPQ to be a reliable measure with Cronbach's alphas ranging from .80- .86 (Miller, 2009; Shore & Strauss, 2008).

**Teamwork Self- Efficacy.** The Teamwork Self-Efficacy Scale (TWSES), developed by Weyhrauch and Culbertson (2011), was used to measure an individual's confidence in their ability to work well in a team (see Appendix B). This measure consists of 13 positively-keyed items scored on a five-point Likert scale anchored by how well the participants thought they could perform the behaviour described in the item (1 = Poor, 2 = Fair, 3 = Neutral, 4 = Good, 5 = Very Good). An example of an item is "Be a good team player."

**Team Reward Attitude.** Shaw et al. (2001) introduced a measure of an individual's attitude towards receiving a team reward entitled the Team Reward Attitudes (TRA) measure (see Appendix C). This measure consists of nine items that were written such that they followed the tripartite attitude model. Shaw et al. (2001) theorize that an

individual with a high score on the TRA has a preference for receiving a team-based reward, while individuals who score low on the TRA have a preference for an individual-based reward. A seven-point Likert-type agreement scale (1 = Strongly Disagree, 7 = Strongly Agree) was used to score individuals responses to each item. A sample item is "Team member's rewards should be based only on the team's performance."

**Procedures**

In accordance with the Research Ethics Board at The University of Western Ontario (see approval form in Appendix D), participants completed a battery of questionnaires through an online testing process to earn course credit (the battery was only available on the Internet). Participants were instructed that they did not have to complete any question for which they were not comfortable responding. In addition to the measures used specifically in the present study (described above), the test battery included various individual differences measures (e.g., the Big 5 personality traits, social dominance orientation, the dark triad). As well, two items were included in the survey to assist in identifying individuals who may be responding carelessly.

**Careless Responding**

Survey data responses provided by individuals who are unmotivated, random, or careless could have significantly negative effects on the quality of the data analyzed in empirical research (Huang, Curran, Keeney, Poposki, & DeShon, 2012). To address this potential issue in the current data collection, two items were included in the survey battery to assess for careless responding in participants. Participants were instructed that they would see items that would direct them to chose a specific scale response based on the instructions provided in the actual item. The two items that were used are, "Choose strongly agree to this item please" and "Choose moderately disagree for this item."

Participants were asked to respond to each item on a 7-point Likert agreement scale. Those who incorrectly responded to either question had their data removed from the experiment. Moreover, Participants were instructed at the beginning of the mass testing that they did not have to respond to items that they did not wish to respond to. Thus, individuals who did not respond to the item(s) did not have their data removed from the analysis. A total of 284 participants were identified for careless responding and removed from the subsequent analyses. As result, 1171 participants were included in the following investigations.

## Study 1 Results

Three structural equation models were tested to evaluate the dimensionality of the Equity Preference Questionnaire (EPQ). AMOS structural equation modeling program with maximum likelihood estimation was used. Because AMOS cannot handle missing data, participants with missing data had to be removed from the sample. Overall, a total of 70 participants were identified as missing some data. After removing these participants, 1101 participants were included in the following confirmatory factor analyses.

Based on the findings of Miller (2009), the first model's measurement structure was a two-factor model that examined the benevolent items as one factor and the entitled items as a second factor. As well, the two factors were allowed to correlate in the measurement model. The second model that was tested was a two-factor model that treated the two factors as orthogonal. Finally, a one-factor model with all 16 items loading on one factor was tested. The two-factor correlated model was compared to the other two discussed models separately to examine the fit of each model. The means and

standard deviations for each item, as well as the inter-item correlations, are all presented in Table 1.

The two-factor model that allowed the factors to correlate resulted in the following chi-squared fit test result: $\chi^2(103) = 730.11$, $p < .001$ (see Figure 2). Furthermore, the following model fit indices were found: RMSEA = .074, TLI = .90, CFI = .91, and SRMR = .05. These fit indices suggest reasonable model fit. The two factors were also found to be negatively correlated, $r = -.73$, $p < .001$, and thus, suggesting that the two factors are inversely related.

The two-factor model that treated the two factors as uncorrelated (i.e., orthogonal) showed the following chi-squared fit test result: $\chi^2(104) = 1281.51$, $p < .001$ (see Figure 3). As well, the following model fit indices were found: RMSEA = .10, TLI = .81, CFI = .83, SRMR = .23. These fit indices for the two-factor orthogonal model indicated poor model fit. In comparison to the two-factor correlated model, the two-factor orthogonal model resulted in a $\Delta\chi^2(1) = 551.40$, $p < .001$, and thus, the two-factor orthogonal model did not fit the data as well as the two-factor correlated model.

The one-factor model that included all 16 items on a single factor resulted in the following chi-squared fit test statistics: $\chi^2(104) = 1402.90$, $p < .001$ (see Figure 4). Moreover, the following model fit indices were found: RMSEA = .11, TLI = .79, CFI = .81, SRMR = .07. These fit indices suggest poor model fit for the one-factor model. In comparison to the two-factor correlated model, the one-factor model resulted in a $\Delta\chi^2(1) = 672.79$, $p < .001$, and thus, the two-factor correlated model indicated much greater model fit than the one-factor model.

Table 1

*Item Means, Standard Deviations and Intercorrelations*

| Indicator | M | SD | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.EPQ1 | 2.53 | 1.14 | | | | | | | | | | | | | | | |
| 2. EPQ2 | 2.56 | 1.12 | .49 | | | | | | | | | | | | | | |
| 3. EPQ3 | 2.3 | 0.98 | .47 | .55 | | | | | | | | | | | | | |
| 4.EPQ4 | 2.35 | 1.04 | .47 | .54 | .62 | | | | | | | | | | | | |
| 5. EPQ5 | 2.74 | 1.16 | .43 | .55 | .49 | .53 | | | | | | | | | | | |
| 6. EPQ6 | 2.26 | 1.03 | .44 | .44 | .49 | .51 | .50 | | | | | | | | | | |
| 7. EPQ7 | 2.24 | 0.98 | .41 | .41 | .48 | .48 | .44 | .64 | | | | | | | | | |
| 8. EPQ8 | 3.56 | 0.88 | -.16 | -.22 | -.25 | -.25 | -.21 | -.25 | -.23 | | | | | | | | |
| 9. EPQ9 | 3.44 | 1.03 | -.28 | -.30 | -.33 | -.33 | -.32 | -.32 | -.32 | .38 | | | | | | | |
| 10. EPQ10 | 2.07 | 0.85 | .26 | .29 | .32 | .32 | .27 | .33 | .33 | -.22 | -.32 | | | | | | |
| 11. EPQ11 | 3.08 | 1 | -.20 | -.26 | -.27 | -.27 | -.25 | -.25 | -.18 | .32 | .36 | -.14 | | | | | |
| 12. EPQ12 | 3.45 | 0.98 | -.33 | -.40 | -.40 | -.40 | -.34 | -.33 | -.30 | .25 | .43 | -.22 | .43 | | | | |
| 13. EPQ13 | 3.78 | 0.93 | -.33 | -.47 | -.39 | -.40 | -.39 | -.36 | -.39 | .32 | .33 | -.29 | .34 | .43 | | | |
| 14. EPQ14 | 3.34 | 1.01 | -.25 | -.39 | -.34 | -.34 | -.34 | -.26 | -.25 | .25 | .32 | -.22 | .37 | .39 | .50 | | |
| 15. EPQ15 | 3.49 | 1 | -.31 | -.46 | -.38 | -.37 | -.37 | -.31 | -.31 | .24 | .33 | -.27 | .32 | .40 | .60 | .65 | |
| 16. EPQ16 | 3.67 | 0.91 | -.26 | -.42 | -.36 | -.37 | -.37 | -.34 | -.36 | .27 | .32 | -.28 | .29 | .38 | .54 | .48 | .60 |

*Note.* All intercorrelations were significant, $p < .001$.

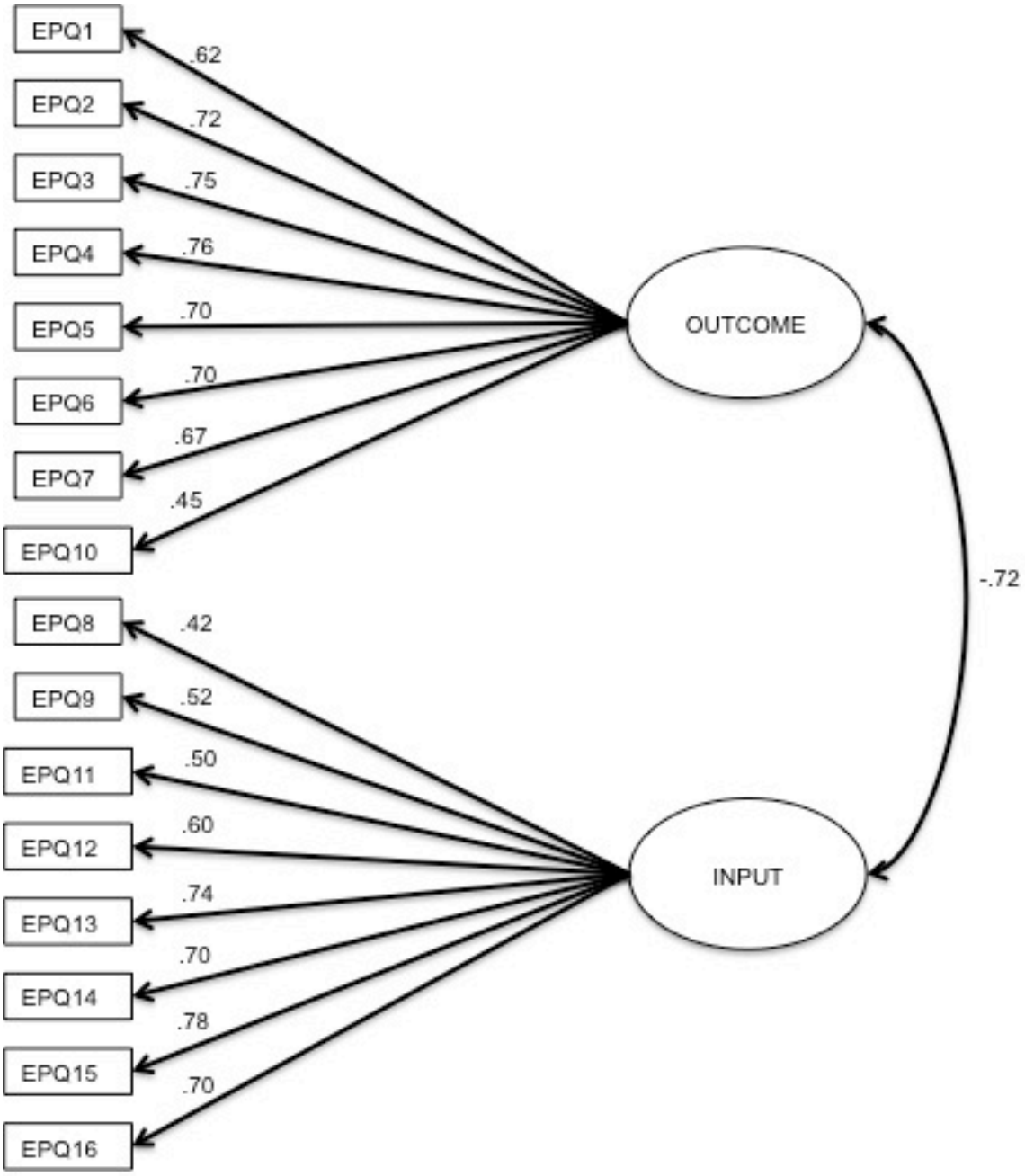


*Figure 2***.** Correlated two-factor confirmatory factor analysis results with standardized regression weights for the EPQ.

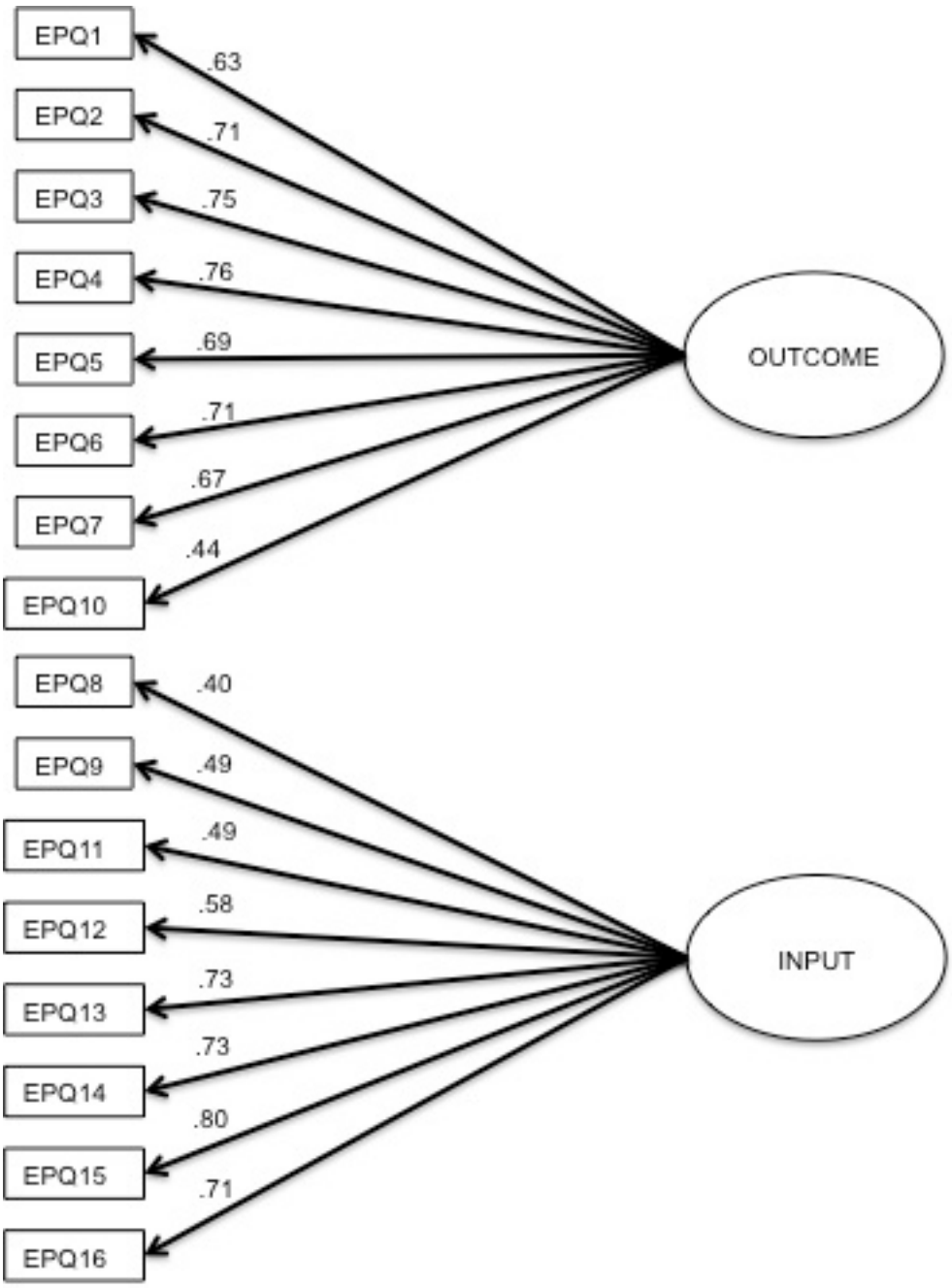


*Figure 3*. Orthogonal two-factor confirmatory factor analysis results with standardized regression weights for the EPQ.

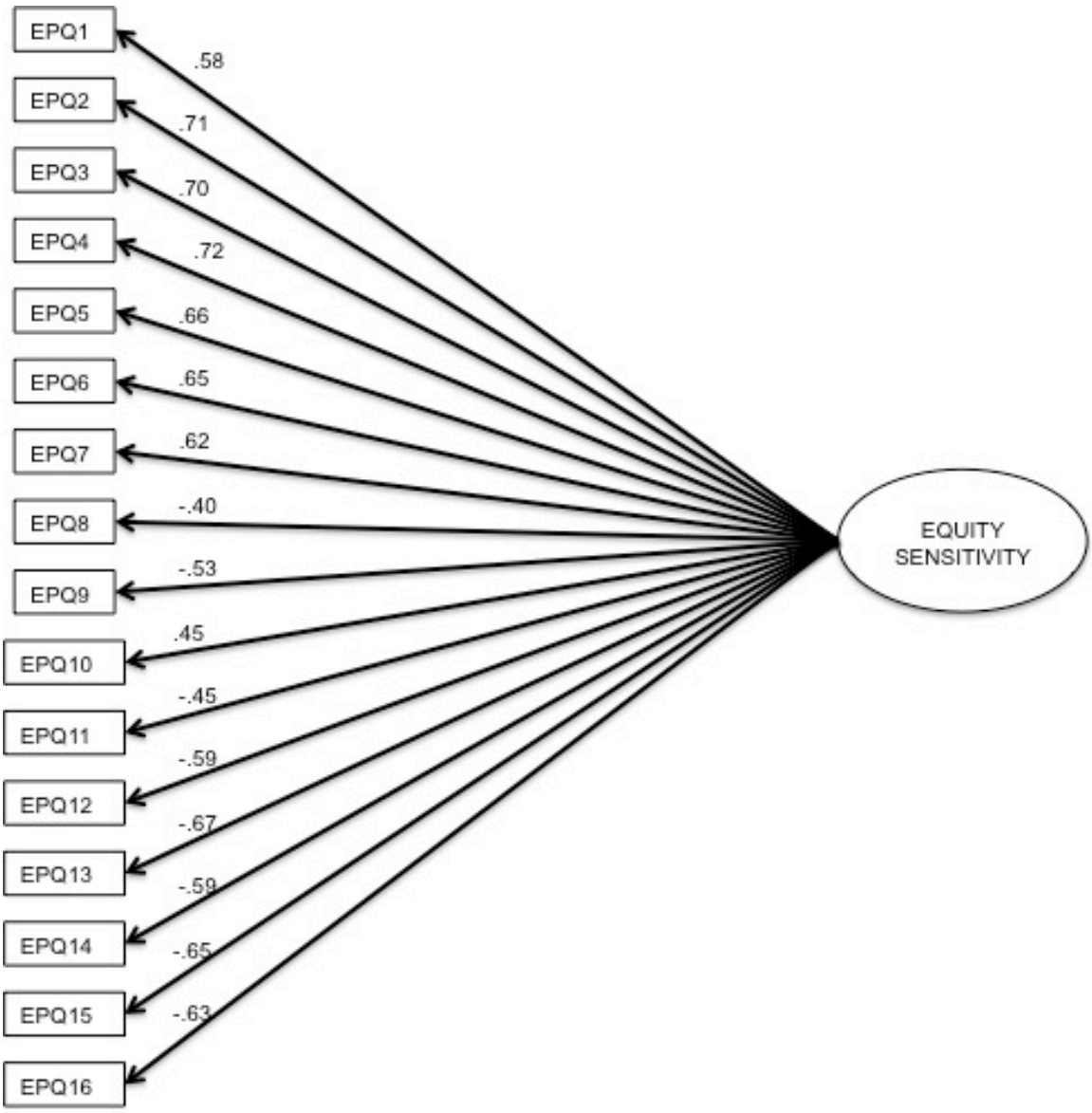


*Figure 4.* Single factor confirmatory factor analysis results with standardized regression weights for the EPQ.

After completing the preliminary model analysis, the modification indices were examined to investigate whether the model was appropriately designed. It was identified that the residuals for items 6 and 7, as well as items 14 and 15, were highly correlated with each other. It is argued here that item 6 ("it is the smart employee who gets as much as he/she can while giving as little as possible in return") and item 7 ("employees who are more concerned about what they can get from their employer rather than what they can give to their employer are the wise ones") are very similar items because they both refer to being a smart/wise employee. Moreover, they are conceptually synonymous and are reworded versions of the same concept (getting rather than giving). As well, item 14 ("at work, I feel uneasy when there is little work for me to do") and item 15 ("I would become very dissatisfied in my job if I had little or no work to do") are also very similar items. Both items refer to discomfort (uneasy and dissatisfaction) and refer to the same conceptual description (little work to do). Thus, the residuals for items 6 and 7, as well as items 14 and 15, were respecified and allowed to correlate.

After respecifying the models, the two-factor correlated nonstandard model resulted in the following chi-squared fit test statistics: $\chi^2(101) = 497.83$, $p < .001$ (see Figure 5). The model modifications significantly decreased the chi-squared fit value in comparison to the previously discussed standard model, $\Delta\chi^2(2)= 232.28$, $p < .001$. Furthermore, the following model fit indices were found: RMSEA = .06, TLI = .93, CFI = .94, and SRMR = .04. These fit indices show improved model fit over the unmodified model. Moreover, the two factors were negatively correlated, $r = -.76$, $p < .001$, supporting Hypothesis 2.

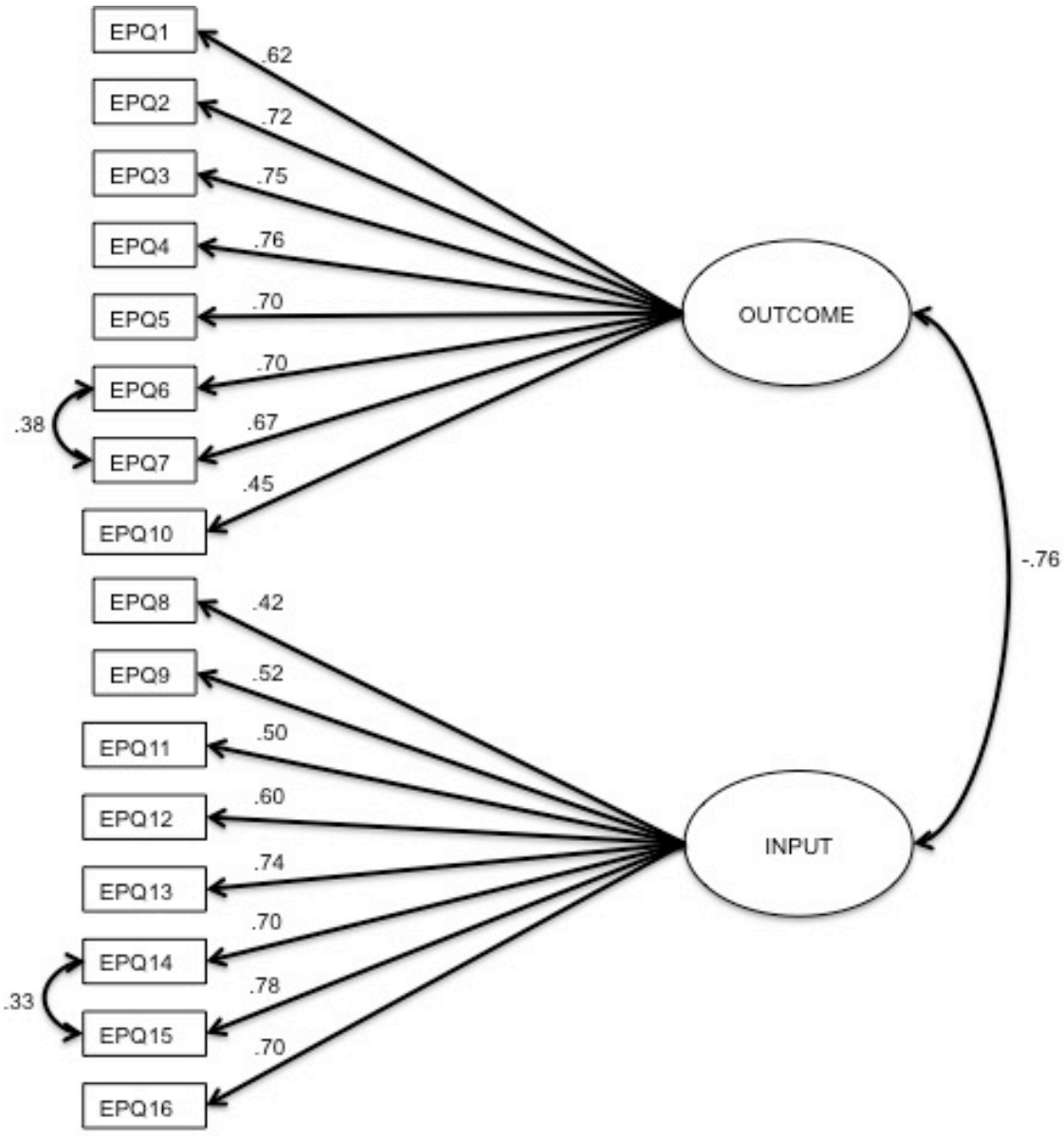


*Figure 5.* Modified correlated two-factor confirmatory factor analysis results with standardized regression weights for the EPQ.

For the two-factor orthogonal model, the chi-squared fit test result $\chi^2(103) = 1086.58$, $p < .001$ (see Figure 6), showed better fit than the unmodified model, $\Delta\chi^2(2)= 194.93$, $p < .001$. Furthermore, the following model fit indices were found: RMSEA = .09, TLI = .83, CFI = .86, and SRMR = .23. These fit indices show improved model fit over the unmodified model.

For the one factor model, the chi-squared fit test result $\chi^2(102) = 970.2$, $p < .001$ (see Figure 7), which is much lower than the unmodified model, $\Delta\chi^2(2)= 432.7$, $p < .001$. Furthermore, the following model fit indices were found: RMSEA = .09, TLI = .85, CFI = .88, and SRMR = .06. These fit indices show improved model fit over the unmodified model.

Although the modifications improved the models overall, the two-factor correlated model still had better chi-squared fit test results over the two-factor orthogonal model, $\Delta\chi^2(1)= 588.75$, $p < .001$, and the one factor model, $\Delta\chi^2(1)= 472.37$, $p < .001$. Moreover, the model fit indices for both the two-factor model and the one factor model did not meet the standards of good model fit (RMSEA < .08, TLI > .90, CFI > .90, and SRMR < .05) (Tabachnick & Fidell, 2007). Thus, in congruence with the findings of Miller (2009) as well as Davison and Bing (2008), equity sensitivity appears to consist of two correlated factors: an input-orientation factor and an outcome-orientation factor.

## Study 1 Discussion

Three confirmatory factor analytic measurement models were run to investigate the factor structure of the EPQ. Interestingly, these analyses showed that a correlated two-factor measurement model best fit the collected data. This supports Hypothesis 1,

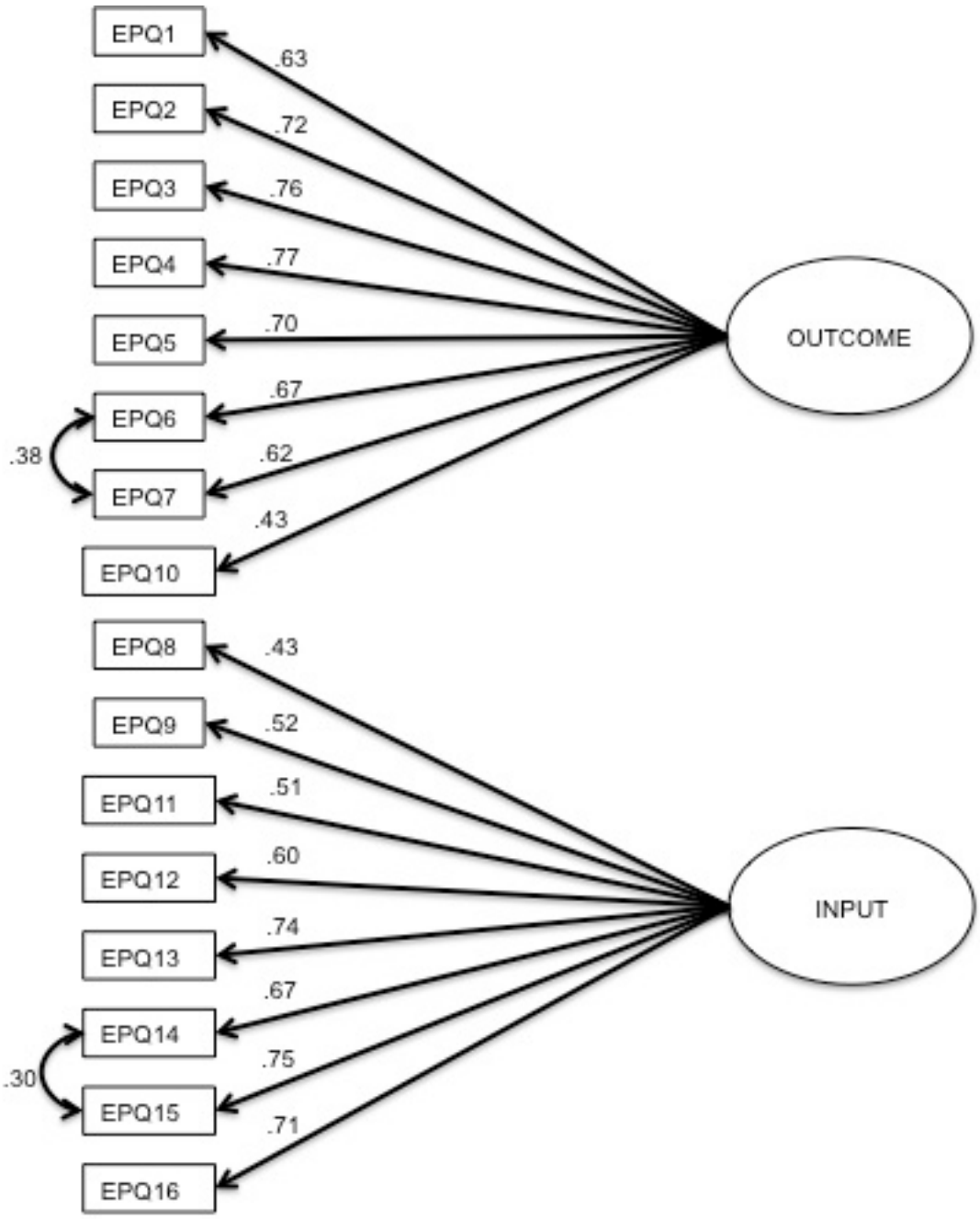


*Figure 6*. Modified orthogonal two-factor confirmatory factor analysis with standardized regression weights for the EPQ.

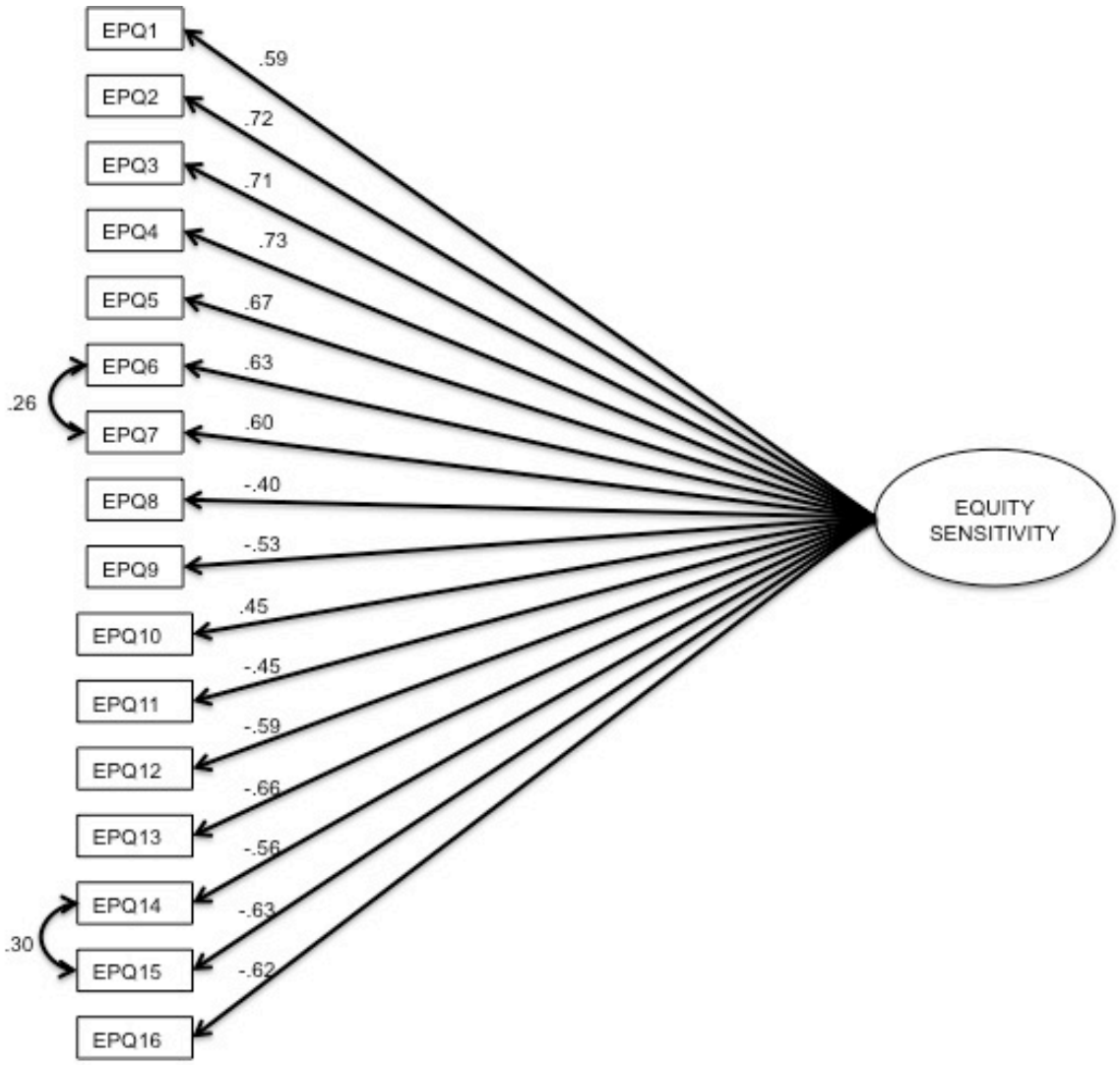


*Figure 7*. Modified single-factor confirmatory factor analysis results with standardized regression weights for the EPQ.

which stated that the equity sensitivity is bidimensional and therefore would load on two separate factors. It was found that the eight reversed keyed (i.e., entitled) items loaded on a separate factor than the eight positively keyed (i.e., benevolent) items. Because the benevolent items focus on how much an individual is willing to input into their workplace, this factor was named the "input" dimension. Furthermore, because the entitled items focus on how much an individual desires outcomes from their workplace, this factor was named the "outcome" dimension.

Another interesting result from the confirmatory factor analysis is that, in the modified measurement model, the input and outcome dimensions have a strong, negative correlation ($r$ = -.76), supporting Hypothesis 2. Possibly, this is a result of items initially being written from a unidimensional, instead of bidimensional, theoretical approach. That is, the items were written such that they would be contradictory to each other. As a result, many of the items contain information pertaining to both inputs and outcomes. For example, two items that loaded on the outcome dimension, "I prefer to do as little as possible at work while getting as much as I can from my employer" and "It is really satisfying to me when I can get something for nothing at work," both clearly discuss getting from their employer (i.e., outcomes) while giving as little as possible (i.e., inputs). Moreover, two items that loaded on the input dimension, "Even if I received low wages and poor benefits from my employer, I would still try to do my best at my job" and "I feel obligated to do more than I am paid to do at work", both discuss the interaction between what an individual inputs into their workplace and what they get out of their workplace. These items therefore investigate the interaction between the two dimensions and, as a result, an individual who is high on one of the presented input items would likely score

lower on the presented outcome items because they are written to be opposites. It is important to note that this may limit the ability to identify interactions between the two dimensions because they have such a strong correlation (i.e., the two dimensions may have a lot of shared variance).

## Study 2 Results

The following correlational analyses and moderated multiple regression analyses were performed using SPSS. To address missing data, a listwise deletion in SPSS was selected. As a result, the number of participants in each analysis varied depending on the measures that were included. For each participant, item scores were averaged across each measure. For all regression and post-hoc analyses, participants' scores were centred. The variable means, standard deviations, Cronbach's alpha reliabilities (see diagonal) and intercorrelations are reported in Table 2.

Pearson correlations were calculated to investigate the proposed hypotheses addressing the relations among the two Equity Preference Questionnaire (EPQ) dimensions (i.e., input and outcome orientation), the Teamwork Self-Efficacy Scale (TWSES), and Team Reward Attitude (TRA) (see Table 2). Consistent with what was found in Study 1 (wherein the relation between the two dimensions was examined) and in support of Hypothesis 2, the input and outcome factor scores were found to be negatively correlated with each other, $r = -.63$, $p < .001$, $r^2 = .40$ (N = 1101), supporting the proposed inverse relations between the two dimensions. Hypothesis 3, which stated that individuals' outcome orientation scores would be positively correlated with their attitude towards a team reward, was supported, $r = .07$, $p = .02$, $r^2 = .01$ (N = 1103). Thus,

Table 2

*Variable Means, Standard Deviations and Intercorrelations*

| Variable | M | SD | 1. | 2. | 3. | |
|---|---|---|---|---|---|---|
| 1. TRA | 3.98 | 0.98 | (.83) | | | |
| 2. OUTCOME | 2.38 | 0.75 | .07* | (.87) | | |
| 3. INPUT | 3.47 | 0.66 | -.01 | -.63*** | (.83) | |
| 4. TWSES | 4.14 | 0.48 | .16*** | -.28*** | .31*** | (.90) |

Note. Cronbach's alpha reliabilities are reported in the diagonals.
* $p < .05$, *** $p < .001$.

individuals who are more outcome focused also showed a preference for a team reward. Individuals' input orientation scores were uncorrelated with scores on the TRA, $r$ = -.01, *ns* (N = 1116), supporting the proposed theory that input orientation is not related to team reward preference. Hypothesis 5, which proposed that individuals' score on the TWSES would be positively correlated with scores on the TRA, was supported, $r$ = .16, $p < .001$, $r^2$ = .03 (N = 1130). Individuals who were more confident in their ability to work in a team also have a more positive attitude towards team rewards. In support of Hypothesis 6, individuals' scores on the input dimension were positively correlated with scores on the TWSES, $r$ = .31, $p < .001$, $r^2$ = .10 (N = 1113). Individuals who are more likely to give to their workplace, in general, have a more positive attitude towards a team reward. In contrast to proposed theory, individuals' scores on the outcome factor were found to be negatively correlated with TWSES scores, $r$ = -.28, $p < .001$, $r^2$ = .08 (N = 1099), suggesting that individuals who were outcome oriented were less confident in their ability to work in a team.

**Moderated Regression Analyses**

Hypothesis 4 stated that the two EPQ dimensions would interact in predicting individuals' TRA scores. Results of the moderated hierarchical multiple regression analysis used to assess this hypothesis is presented in Table 3. After missing data were removed using listwise deletion, a total of 1089 participants were included in this analysis. Block 1 of the hierarchical regression contained the two independent variables (i.e., the input and outcome dimension scores). In this model, outcome orientation, $\beta$ = .12, t(1086) = 2.96, $p$ = .003, significantly added to the prediction of TRA scores, whereas input orientation was trending towards being significant, $\beta$ = .07, t(1086) = 1.69, $p$ = .09 ($R^2$ = .01). The product term representing the interaction between the input and

Table 3

*Summary of the Hierarchical Moderated Regression Analysis for Input and Outcome Orientation*

| Block | Variable | $\beta_{Block\ 1}$ | $\beta_{Block\ 2}$ | Overall $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| 1 | INPUT | .07 | .07 | | |
| | OUTCOME | .12** | .12** | .01 | |
| 2 | INPUT x OUTCOME | | .05 | .01 | .00 |

Note. ** $p < .01$.

outcome dimensions was added in Block 2. The interaction term, although nonsignificant, was trending towards significance, $\Delta R^2 = .003$, $\beta = .05$, $t(1085) = 1.65$, $p = .10$. Thus, a simple slopes analysis to investigate the shape of this interaction will be performed after completing the moderated regression analyses.

Prior to investigating Hypothesis 7 and the potential three-way interaction, the two other potential two-way interactions, were tested. That is, I examined the interaction between input orientation and teamwork self-efficacy and the interaction between outcome orientation and teamwork self-efficacy. Thus, the subsequent sections present the results of the two moderated hierarchical multiple regression analyses performed to investigate these potential interactions.

The hierarchical regression assessing the interaction between scores on the input dimension and TWSES is presented in Table 4. After listwise deletion, a total of 1101 participants were included in this analysis. Block 1 of the hierarchical regression contained the input dimension and TWSES scores. In this model, both scores on the TWSES, $\beta = .19$, $t(1098) = 6.06$, $p < .001$, and scores on the input dimension, $\beta = -.07$, $t(1098) = -2.21$, $p = .03$, significantly added to the prediction of TRA scores ($R^2 = .03$). The product term for the interaction between the input dimension and TWSES scores was added in Block 2. This interaction was nonsignificant, $\Delta R^2 = .00$, $\beta = .02$, $t(1097) = 0.53$, *ns*. Thus, scores on the EPQ's input dimension did not moderate the relation between TWSES scores and TRA scores.

Results of the hierarchical regression examining the interaction between the EPQ's outcome dimension and TWSES are presented in Table 5. After listwise deletion, a total of 1088 participants were included in this analysis. Block 1 of the hierarchical

Table 4

*Summary of the Hierarchical Moderated Regression Analysis for Input Orientation and Teamwork Self-Efficacy*

| Block | Variable | $\beta_{Block\ 1}$ | $\beta_{Block\ 2}$ | Overall $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| 1 | INPUT | -.07* | -.07* | | |
| | TWSES | .19*** | .19*** | .03 | |
| 2 | INPUT x TWSES | | .02 | .03 | .00 |

Note. *$p < .05$. ***$p < .001$.

Table 5

*Summary of the Hierarchical Moderated Regression Analysis for Outcome Orientation and Teamwork Self-Efficacy*

| Block | Variable | $\beta_{Block\ 1}$ | $\beta_{Block\ 2}$ | Overall $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| 1 | OUTCOME | .12*** | .13*** | | |
| | TWSES | .20*** | .20*** | .04 | .00 |
| 2 | OUTCOME x TWSES | | -.02 | .04 | .00 |

Note. ***$p < .001$.

regression contained the outcome dimension and TWSES scores, respectively. In this model, both the outcome dimension scores, $\beta = .12$, $t(1085) = 3.98$, $p < .001$, and TWSES scores, $\beta = .20$, $t(1085) = 6.38$, $p < .001$, significantly added to the prediction of TRA scores ($R^2 = .04$). The product term for the interaction between the outcome orientation and TWSES scores was added in Block 2. This interaction was nonsignificant, $\Delta R^2 = .00$, $\beta = -.02$, $t(1084) = -.58$, *ns.* Thus, outcome dimension scores did not moderate the relation between TWSES and TRA scores.

Hypothesis 7 proposed that there would be a significant three-way interaction between an individual's input orientation, outcome orientation, and teamwork self-efficacy when predicting an individual's attitude towards a team reward. Thus, a moderated hierarchical multiple regression analysis was conducted to investigate this theorized three-way interaction (see Table 6). After listwise deletion, a total of 1074 participants were included in this analysis. Block 1 of the hierarchical regression contained the three independent variables (i.e., the input and outcome dimension scores, as well as the TWSES scores). In this model, the outcome dimension scores, $\beta = .15$, $t(1070) = 3.74$, $p < .001$, and the TWSES scores, $\beta = .20$, $t(1070) = 6.39$, $p < .001$, significantly added to the prediction of TRA scores, whereas the input dimension scores, $\beta = .02$, $t(1070) = 2.71$, *ns*, did not significant add to TRA score prediction ($R^2 = .04$). Next, the product terms for each of the possible two-way interactions between the three independent variables (i.e., the product term between the input and outcome dimensions, the product term between the input dimension and the TWSES, and the product term between the outcome dimension and the TWSES) were added to the hierarchical regression in Block 2. In this model, the interaction between the input and outcome

Table 6

*Summary of the Hierarchical Moderated Regression Analysis for the Three-Way Interaction between Input Orientation, Outcome Orientation and Teamwork Self-Efficacy*

| Block | Variable | $\beta_{Block\ 1}$ | $\beta_{Block\ 2}$ | $\beta_{Block\ 3}$ | Overall $R^2$ | $\Delta R^2$ |
|---|---|---|---|---|---|---|
| 1 | OUTCOME | .15*** | .16*** | .18*** | | |
| | INPUT | .02 | .02 | -.01 | | |
| | TWSES | .20*** | .22*** | .17*** | .04** | |
| 2 | OUTCOME x INPUT | | .09** | .13*** | | |
| | OUTCOME x TWSES | | -.04 | -.05 | | |
| | INPUT x TWSES | | .03 | .05 | .05** | .01** |
| 3 | OUTCOME x INPUT x TWSES | | | -.14*** | .06*** | .02*** |

Note. **$p < .01$. ***$p < .001$.

dimensions, β = .09, t(1067) = 2.73, $p$ = .01, significantly added to the prediction of TRA scores, whereas the interaction between the input dimension scores and TWSES scores, β = .03, t(1076) = 0.67, *ns*, and the interaction between the outcome dimension scores and TWSES scores, β = -.04, t(1076) = -.94, *ns*, were both nonsignificant ($\Delta R^2$ = .01). In Block 3, the three-way interaction between all three variables (i.e., the product term for the scores on the input dimension, the outcome dimension, and the TWSES) was added to the model. In support of Hypothesis 7, the three-way interaction between the three variables was found to be significant, $\Delta R^2$ = .01, t(1066) = -3.74, $p < .001$. Therefore, the interaction between individuals' scores on the input and outcome dimensions varied depending on individuals' TWSES scores when predicting their TRA scores.

**Simple Slope Analysis**

The simple slopes analysis investigates the relations between the desired variables at high levels (i.e., one standard deviation above their respective means) and low levels (i.e., one standard deviation below their respective means) of each continuous variable. Furthermore, although an interaction is nonlinear, a simple slopes analysis forces a linear relation between the dimensions at each level (high and low). Merely to use labels consistent with those that are used in the bidimensional equity sensitivity literature (see Davison & Bing, 2008), I identified individuals who were one standard deviation (SD) above the mean on both outcome and input orientation as "equity sensitives", individuals who were one SD above the mean on outcome orientation and one SD below the mean on input orientation as "entitleds", individuals who were one SD below the mean on outcome orientation and one SD above the mean on input orientation as "benevolents", and individuals who were one SD below the mean on both outcome and input orientation

as “equity indifferents”. Methods presented by Preacher, Curran, and Bauer (2006) were used to perform the simple slope analyses.

A simple slopes analysis was first conducted to assess the shape of the two-way interaction between input and outcome orientation (see Figure 8). Although this relation was nonsignificant, it was trending towards being significant, therefore the simple slopes analysis was performed to investigate this trending relation. In support of Hypothesis 4, it was found that individuals who were low on outcome orientation (i.e., benevolents and equity indifferents) did not differ significantly in their attitude towards a team reward, $t(1085) = 0.62$, *ns*. On the other hand, individuals who were high on outcome orientation (i.e., entitleds and equity sensitives) differed significantly in their attitude towards a team reward such that equity sensitive individuals had a more positive attitude towards a team reward than entitleds, $t(1085) = 2.48$, $p = .01$.

A simple slopes analysis was performed to assess the shape of the three-way interaction between the three variables. Using a person-centred approach, the relation between each equity sensitivity orientation and team reward attitude across high and low levels of teamwork self-efficacy (TSE) were examined. First, individuals who scored high on the outcome dimension (i.e., equity sensitives and entitleds) were analyzed (see Figure 9). The results of this analysis showed that equity sensitives did not have a significant change in TRA scores across low and high levels of TSE, $t(1063) = 1.05$, *ns,* supporting proposed theory. On the other hand, entitleds had significantly higher TRA scores when they also had higher TWSES scores, $t(1063) = 3.73$, $p < .001$. This finding is congruent with Hypothesis 7a, which stated that entitled individuals who are high in TSE would have a more positive attitude towards team rewards and thus, increase their

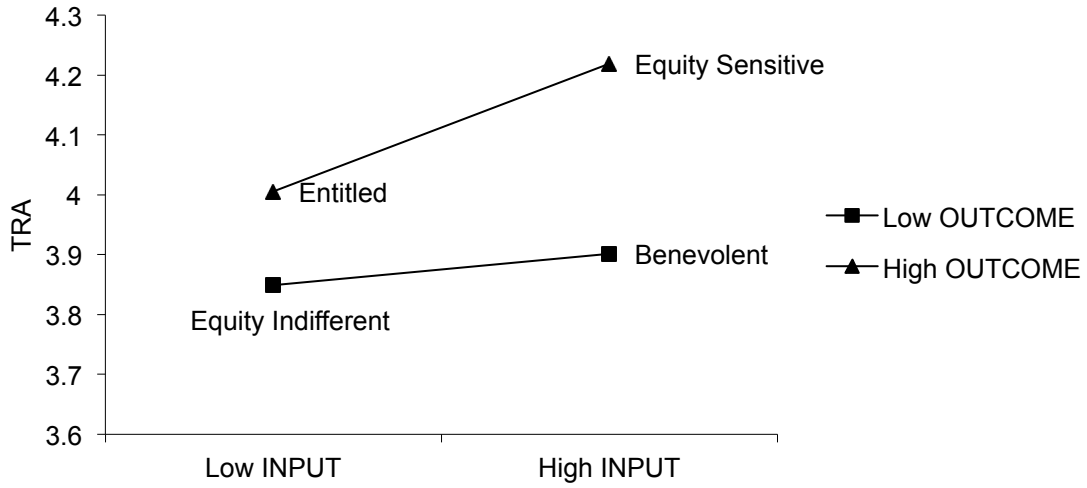


*Figure 8*. Graph of the interaction between input and outcome orientation when predicting individuals' attitude towards a team reward.

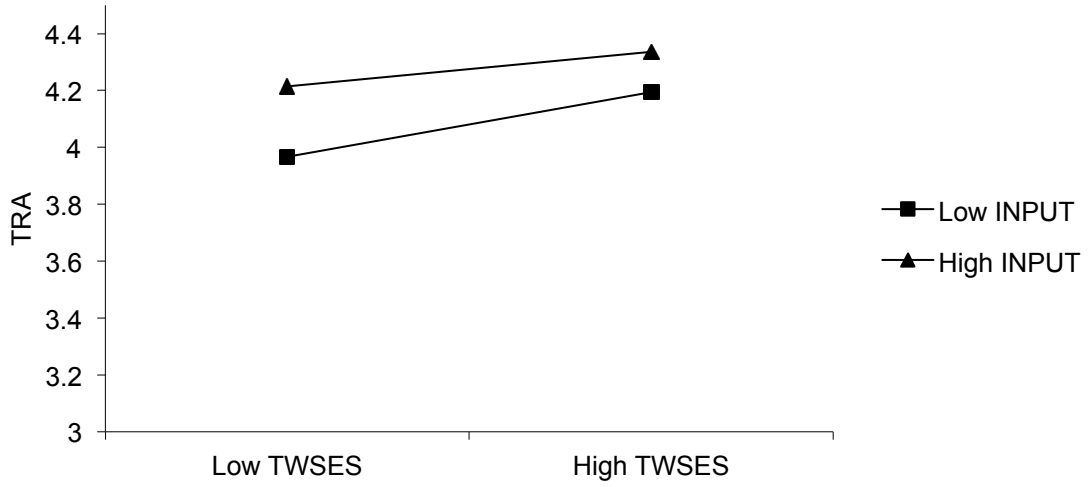


*Figure 9*. Graph of the interaction between input orientation and teamwork self-efficacy at the high level of outcome orientation when predicting individuals' attitude towards a team reward.

opportunity to earn a team reward.

Next, data from individuals who were identified as scoring low on the outcome dimension (i.e., benevolents and equity indifferents) were analyzed (see Figure 10). This analysis showed that benevolents had significantly higher TRA scores when they also had higher TWSES scores, $t(1063) = 6.68$, $p < .001$. This finding is commensurate with Hypothesis 7b, which stated that when a benevolent individual is high in TSE they should be able to improve team performance, leading to an increase in the likelihood of obtaining a team reward. As a result, the ability to help obtain a team reward becomes another opportunity for the benevolent to give to their team. Equity indifferents, on the other hand, did not have a significantly higher TRA score across low and high levels of the TWSES, $t(1063) = 1.11$, *ns*, which was also congruent with proposed theory.

An exploratory simple slopes analysis was conducted to examine the interaction between the input and outcome dimensions at low, medium, and high levels of the TSE. No hypotheses were proposed in regards to this analysis. Figure 11 shows the results of the interaction between the input and outcome orientation at low levels of TSE. The simple slopes analysis revealed a significant difference between individuals who scored high on the outcome dimension. It was found that equity sensitives score significantly higher on the TRA than entitleds, $t(1063) = 2.28$, $p = .02$. Thus, when high outcome oriented individuals are low in TSE, they have a more positive attitude towards a team reward when they are also high in input orientation. It was also found that equity indifferents score significantly higher on the TRA than benevolents, $t(1063) = -3.17$, $p = .002$. Thus, when low on TSE, low outcome oriented individuals have a more positive attitude towards a team reward when they are also low on input orientation. As well, it

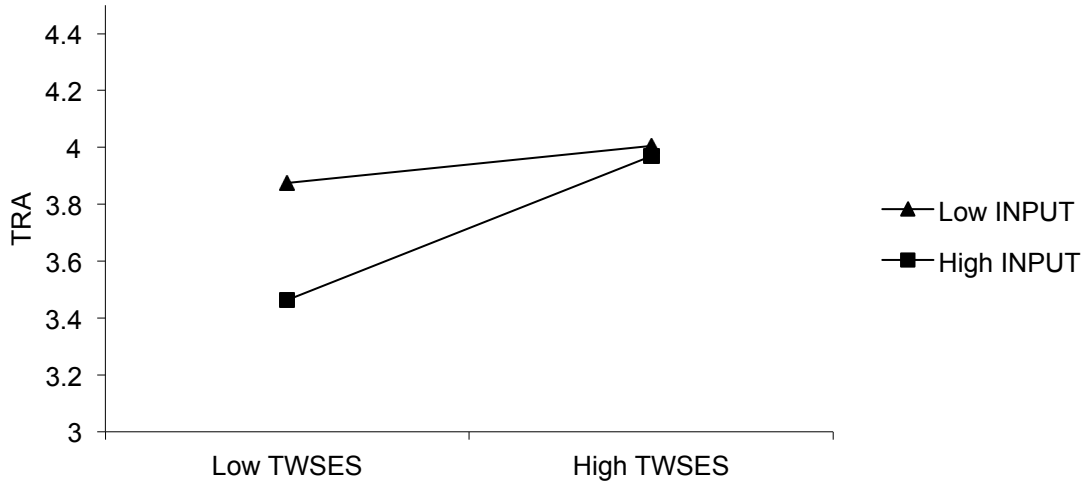


*Figure 10*. Graph of the interaction between input orientation and teamwork self-efficacy at the low level of outcome orientation when predicting individuals' attitude towards a team reward.

was found that although entitleds appear to score slightly higher on the TRA than equity indifferents, this visual difference (see Figure 11) is not statistically significant, t(1063) = 0.77, *ns*.

A simple slopes analysis at medium (i.e., the mean) levels of TSE is shown in Figure 12. As was found with low levels of TSE, equity sensitives still score significantly higher on the TRA than entitleds, t(1063) = 2.16, $p = .03$. It was also found that equity indifferents still score significantly higher on the TRA than benevolents, t(1063) = -2.48, $p = .01$. Furthermore, although entitleds still appear to score slightly higher on the TRA than equity indifferents, this visual difference is not statistically significant, t(1063) = 1.42, *ns*.

Results of the simple slopes analysis at high levels of TSE can be seen in Figure 13. When TSE is high, entitleds no longer have significantly lower TRA scores in comparison to equity sensitives, t(1063) = 1.40, *ns.* Moreover, it was found that equity indifferents did not differ significantly from benevolents at high levels of TSE, t(1063) = -0.40, *ns*. In addition, it was found that the visual difference between equity indifferents and entitleds was trending towards statistical significance, t(1063) = 1.68, $p = .09$. Thus, at high levels of TSE, both high outcome and low outcome individuals appear to have a more positive attitude towards team rewards regardless of their input orientation.

**Difference of Slopes Analysis**

Dawson and Richter's (2006) slope difference test was used to investigate the differences between the previously discussed four simple slopes associated with the interaction between input and outcome orientation across high and low levels of teamwork self-efficacy. As with the simple slopes analysis, values were calculated at plus (high) or minus (low) one standard deviation of each variable's mean. The Dawson and

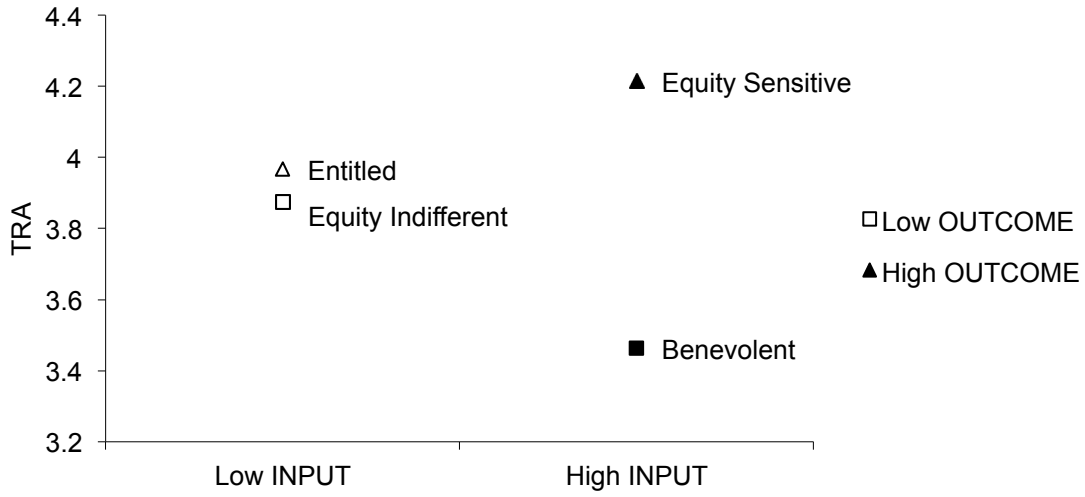


*Figure 11*. Graph of the interaction between input and outcome orientation at the low level of teamwork self-efficacy when predicting individuals' attitude towards a team reward.

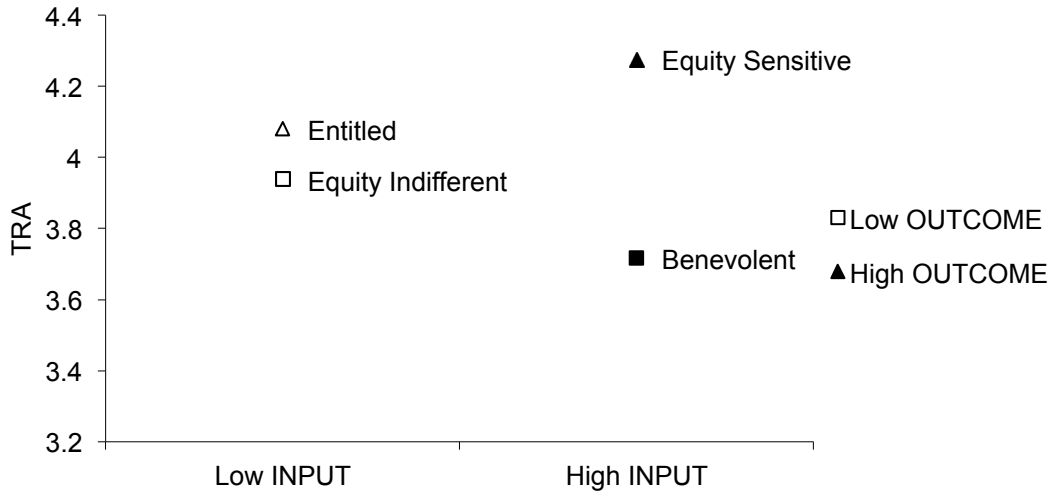


*Figure 12*. Graph of the interaction between input and outcome orientation at the medium level of teamwork self-efficacy when predicting individuals' attitude towards a team reward.

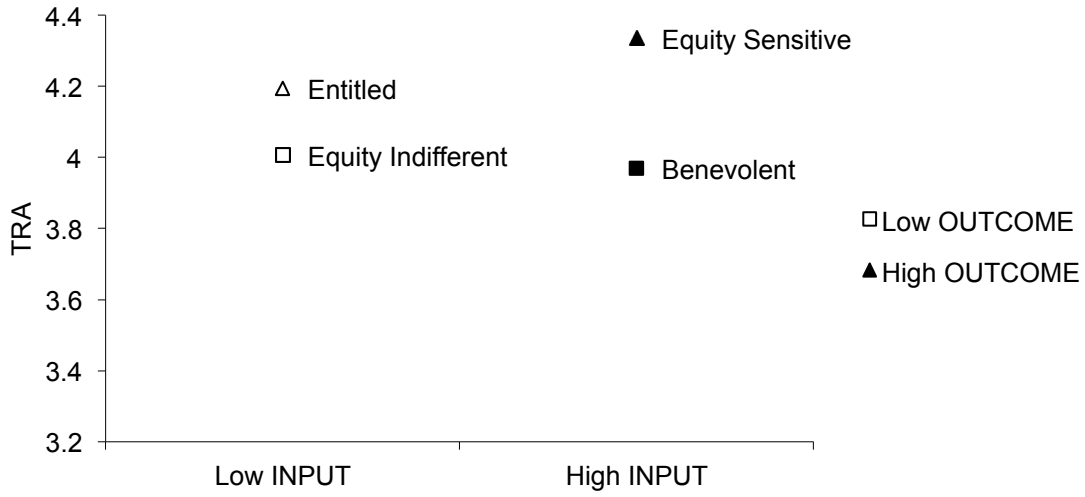


*Figure 13*. Graph of the interaction between input and outcome orientation at the high level of teamwork self-efficacy when predicting individuals' attitude towards a team reward.

Richter (2006) test analyzes whether the created linear relations (i.e., the simple slopes) differ significantly from each other.

The results of this analysis are plotted in Figure 14. It was found that across high and low levels of teamwork self-efficacy, the slope for equity sensitives was significantly different from the slope for benevolents, $t(1066) = -2.89$, $p = .004$. Moreover, the slope for the equity sensitives was not significantly different from either the slope for entitleds, $t(1066) = -0.98$, *ns*, or the slope for equity indifferents, $t(1066) = -0.05$, *ns.* The slope for the entitleds was also found to be significantly different from the slope for the benevolents, $t(1066) = -2.67$, $p = .01$. Furthermore, the slope for the entitleds was not significantly different from the slope for the equity indifferents, $t(1066) = 0.79$, *ns.* Finally, the difference between the slopes for the benevolents and equity indifferents was significant, $t(1066) = 2.89$, $p = .004$. Thus, the slopes for equity sensitives, entitleds, and equity indifferents, in comparison to each other, did not differ significantly in gradient across high and low TWSES scores. The slope of benevolents, on the other hand, was significantly different from the slopes of equity sensitives, entitleds and equity indifferents across high and low levels of teamwork self-efficacy.

## Study 2 Discussion

The purpose of this study was to investigate the relation between the equity sensitivity and teamwork self-efficacy when predicting team reward attitudes. As was predicted, scores on both the outcome dimension and the TWSES were positively related to scores on the TRA. The relation between the outcome dimension and TRA scores is argued here to be due to the fact that team rewards are an outcome.Thus, individuals who score high on the outcome dimension are going to have a more positive attitude towards

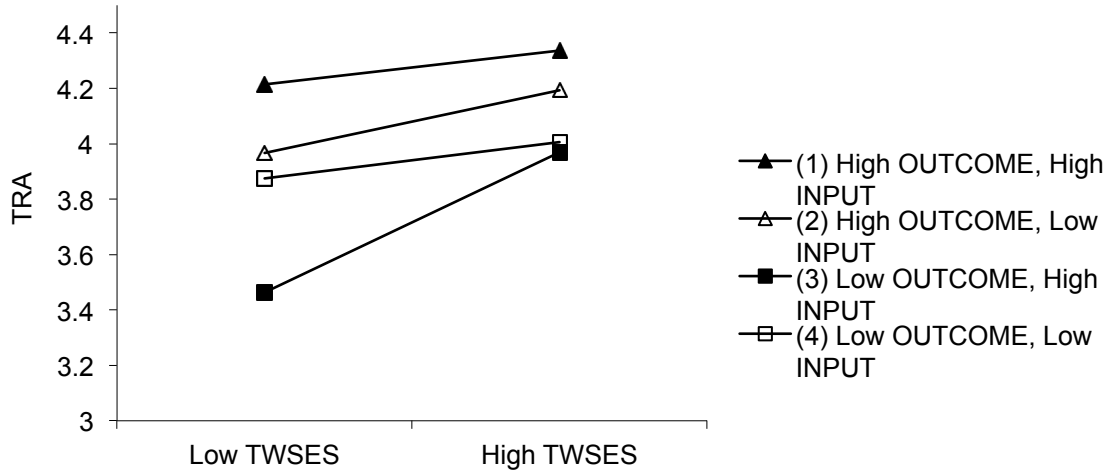


*Figure 14*. Graph of the difference of slopes for the four equity sensitivity orientations across high and low levels of teamwork self-efficacy when predicting individuals' attitude towards a team reward.

receiving a team reward. As well, the relation between the teamwork self-efficacy and team reward attitudes can be attributed to the belief that individuals who are more confident in their ability to work well in a team will have a more positive attitude towards receiving a team reward, since they theoretically should be more likely to obtain a team reward. Moreover, congruent with proposed theory, individual scores on the input dimension were uncorrelated with TRA scores.

In regards to the relations with the TWSES, it was found that individuals' input dimension scores were positively related to their TWSES scores, supporting Hypothesis 6. For an interdependent team to be effective, individuals should give (i.e., input) their expertise to the team such that it will help the team as a whole. Individuals who therefore are more input oriented should be more confident in their ability to work well in a team environment since it requires them to give to the team. Although further research is required, it is an intriguing finding that individuals who are more input oriented have higher teamwork self-efficacy. Empirical research (e.g., De Jong et al., 1999; Staples & Webster, 2007) has shown that teamwork self-efficacy is related to perceptions of team effectiveness. Thus, high input-oriented individuals may perform better while working in a team environment than low input-oriented individuals.

It was also found that individuals' outcome dimension scores were negatively correlated with scores on the TWSES. This finding is incongruent with proposed theory but intriguing nonetheless. This result could partially be due to the psychometric properties of the EPQ. The input and outcome dimensions had a strong negative relation between each other and, as previously noted, many of the outcome items compared outcome preference to minimizing inputs. It is therefore argued that many individuals who scored high on the outcome dimension also scored lower on the input dimension. As

was previously discussed, scores on the input dimension were positively related to scores on the TWSES. Thus, scores on the outcome dimension inevitably will be negatively correlated with scores on the TWSES. Moreover, this finding implies that individuals who are more outcome-oriented are less confident in their ability to work well in a team environment. This could be the result of teamwork processes requiring individuals to put aside their personal needs for the good of the team. Outcome-oriented individuals are theorized to have a 'me first' approach, and therefore focus on what they can get from their team instead of what they can give to their team. Possibly, social experiences (e.g., "the team will not succeed with out *all* of us") have led outcome-oriented individuals to believe that a 'me first' approach is ineffective in a team, and thus, he or she is not confident in his or her ability to put the team first over his or her individual outcome-oriented needs.

In regards to Hypothesis 4, a significant two-way interaction between the input and outcome dimensions was not found when predicting individuals' attitude towards a team reward. This result could be attributed to the poor psychometric quality of the EPQ measure itself. As was noted in Study 1, many of the items from the EPQ measure include wording that references both the input and outcome dimensions within a single item and was not designed in a fashion that would allow for a strong distinction between individuals who are high and low on either the input dimension or the outcome dimension. Therefore, the blurring of dimensions within items would limit the ability to distinguish clearly between individuals who score high/low on either dimension. As will be discussed in the future directions, a scale that is designed with a bidimensional approach may be a more effective measure of individual differences in equity. It is worth

noting that although the interaction was not significant, it was trending towards significance. Simple slopes analysis of the interaction revealed that low outcome oriented individuals (i.e., benevolents and equity indifferents) did not differ in their preference for a team reward, while high outcome oriented individuals (entitleds and equity sensitives) did, showing partial support for Hypothesis 4. It is argued that equity sensitives have the most positive attitude towards a team reward because they are high in outcome orientation and input orientation. Thus, they like receiving a team rewards because they are an outcome, and they are also motivated to earn the team reward by giving more to their team.

Consistent with Hypothesis 7, a significant three-way interaction between the input orientation, outcome orientation, and teamwork self-efficacy was found when predicting individuals' attitude towards a team reward. To interpret this finding, two post-hoc analyses (i.e., simple slopes analyses and a difference of slopes analysis) were performed. The first simple slopes analysis examined the two high outcome orientations (i.e., equity sensitives and entitleds). This analysis found that entitleds had a significant (and positive) increase in their TRA scores across low and high levels of TWSES scores, whereas equity sensitives did not show a significant increase or decrease in TRA scores across teamwork self-efficacy levels. This result suggest that, in the current sample, entitled individuals have a more positive attitude towards a team reward when they are confident in their ability to perform well in a team. This is congruent with Hypothesis 7a which proposed that when entitleds are high in teamwork self-efficacy they will perceive themselves as more likely to obtain a team reward (i.e., a desired outcome). On the other hand, equity sensitive individuals did not show a change in attitude across levels of

teamwork self-efficacy. This finding is also congruent with the proposed theory, which argued that equity sensitive individuals are sensitive to workplace fairness and perceived justice. In a team environment, where team performance takes precedence over individual performance, a reward that is based on the performance of the team as a whole and shared among its members is arguably the fairest approach. Thus, commensurate with the findings herein, because equity sensitives are motivated by fairness, they should have a positive attitude towards a team reward whether they are confident in their teamwork skills or not.

The simple slopes for low outcome oriented individuals (i.e., benevolents and equity indifferents) revealed that benevolents had a more positive attitude towards a team reward when they were confident in their ability to perform in a team environment, whereas equity indifferents' attitude towards a team reward did not vary depending on their confidence in their teamwork skills. This is congruent with Hypothesis 7b, which argued that benevolents are driven by what they can contribute to their work environment, which, in this case, is a team environment. It was theorized that benevolents, when low in teamwork self-efficacy, will have a less positive attitude towards a team reward because they will believe their inability to perform well in a team will take away from their teams' performance and, in turn, would reduce the value of the team reward or potentially prevent the team from even obtaining a team reward. On the other hand, when benevolents are high in teamwork self-efficacy they have a more positive attitude towards a team reward, which is argued to be the result of their ability to input more to the team and increase the value of, or opportunity to obtain, a team reward. Furthermore, although the team reward (i.e., outcome) is not something that benevolents

desire for themselves, it becomes another means through which they can increase their input to the team. Because a team reward is shared equally between members, when a benevolent performs well in a team they increase the team's ability to obtain a team reward and thus, increase what they have given to the team. In comparison, equity indifferents' attitude towards a team reward does not change depending on their teamwork self-efficacy. This result may be due to their indifference in regards to both outcomes and inputs. Whereas benevolents are driven by their inputs to the team, indifferents do not have this motivation. Thus, in support of the proposed theory, equity indifferents show no change in their attitude towards team rewards across levels of teamwork self-efficacy.

A second simple slopes analysis was conducted to examine the relation between individuals' equity sensitivity orientation and team reward atittude at low (see Figure 11), medium (see Figure 12) and high (see Figure 13) levels of teamwork self-efficacy. In each graph, points are plotted for equity sensitives, entitleds, benevolents, and equity indifferents. Results suggest that equity sensitives had the most positive attitude towards a team reward across low, medium and high levels of teamwork self-efficacy. Entitleds' attitude towards a team reward, although significantly less than equity sensitives at low and medium levels of teamwork self-efficacy, was the second most positive across levels of teamwork self-efficacy. As was previously discussed, entitled individuals attitude towards a team reward increased in congruence with their confidence to work well in a team. The simple slopes analysis found that at high levels of teamwork self-efficacy entitleds' and equity sensitives' attitudes were fairly similar.

In regards to low outcome-oriented individuals, benevolents showed the greatest change in attitude across the three levels of teamwork self-efficacy. When teamwork self-efficacy was low, simple slopes analysis revealed that benevolents had scores that were significantly lower than equity sensitives, entitleds, and equity indifferents. Perhaps this is the result of benevolent individuals lack of confidence in their ability to input to their team, therefore creating dissonance associated with being over rewarded. At medium levels of teamwork self-efficacy, benevolent individuals attitude towards a team reward, although still significantly less than entitleds and equity sensitives, is no longer significantly different than an equity indifferent individuals' attitude. This pattern carries over to high levels of teamwork self-efficacy where benevolent individuals attitude towards a team reward does not differ significantly from equity indifferents. Equity indifferents, on the other hand, did not show an increase in their attitude towards a team reward across low, medium, or high levels of teamwork self-efficacy.

It is also worth noting that at low and medium levels of teamwork self-efficacy, equity indifferents and entitleds did not differ from each other in their preference for a team reward. But, at high levels of teamwork self-efficacy, the difference between equity indifferents and entitleds was trending towards significance. The congruent team reward attitudes between entitleds and equity indifferents at low and medium levels of teamwork self-efficacy could be the result of their shared lack of input orientation. Thus, these individuals are there just for the reward and may be more likely to free ride or social loaf in a team environment. Free riding and social loafing occur when certain team members do not contribute to team and still try and obtain the benefits (e.g., rewards) obtained by the team (Kozlowski & Ilgen, 2006). However, when entitleds are more confident in their

ability to perform well in a team, their preference for a team reward increased whereas equity indifferents show no increase across teamwork self-efficacy levels. Possibly, when entitleds are high in teamwork self-efficacy they are no longer motivated by free-riding to obtain the team reward because they are now confident they can contribute to the team and help increase the potential size and/or frequency of obtaining the team reward. Equity indifferents, on the other hand, do not show this change in motivation and remain indifferent even at high levels of teamwork self-efficacy.

The difference of slopes analysis examined whether the slopes produced by examining the linear relations between either high or low levels of input orientation, combined with either high or low levels of outcome orientation, differ between each other across high and low levels of teamwork self-efficacy. As shown in Figure 14, the slope for benevolent individuals was significantly different than the slope of equity sensitives, entitled, or equity indifferents. The slopes for equity sensitives, equity indifferents, and entitleds were not significantly different from each other. Therefore benevolent individuals showed the greatest change in their attitude towards a team reward across high and low levels of teamwork self-efficacy. Thus, the moderating effect of teamwork self-efficacy appears to be stronger for individuals who were identified as being benevolent in comparison to individuals who were identified as being either equity sensitive, equity indifferent, or entitled. This effect is potentially due to benevolent individuals' high input/low outcome orientation. Whereas entitleds and equity sensitives are both high on outcomes and thus will, overall, show a greater preference for an outcome (e.g., a team reward), equity indifferent individuals lack concern for outcomes or inputs no matter the situation. Benevolents, on the other hand, are concerned with what

they can give to their workplace. In a team environment, benevolents who are confident in their teamwork skills may feel they can improve the team's performance and therefore increasing the chance of the team obtaining a team reward. Because the team reward is shared between team members, by increasing the team's ability to earn a team reward a benevolent has also increased what they have given to their team. As a result, the higher a benevolent's teamwork self-efficacy, the more positive their attitude towards a team reward should be.

**Limitations**

The first limitation of the current research involves the construct validity of the EPQ. Although Sauley and Bedeian (2000) followed the guidance of Hinkin (1998), Jackson (1970) and Spector (1992) for developing a construct measure using deductive reasoning, the major premise of their deductive reasoning may have been flawed. Sauley and Bedeian (2000), following equity sensitivity theory proposed by Huseman, Hatfield, and Miles (1985), developed the EPQ with the ideology that it was unidimensional, with input-oriented benevolent individuals at one end of the spectrum, equity sensitives in the middle (with a focus on balancing inputs and outcomes), and outcome-oriented entitleds at the other end of the spectrum. As Davison and Bing (2008) argued, the unidimensional approach to equity sensitivity ignores the opportunity for individuals to vary on input orientation and outcome orientation. Although this limits the findings of the current study, it is important to reiterate that the EPQ is still the most psychometrically sound measure of equity sensitivity to date.

A second limitation associated with the measurement of equity sensitivity in the current study stems from incongruence between Adams' (1963; 1965) equity theory and the methods used to measure equity sensitivity. Equity theory is rooted in Festinger's

(1954) social comparison theory and argues that an individual's perceptions of equity are in comparison to others. The comparison others should also be individuals who share similar qualities with the comparer (i.e., job title, work experience, industry, etc.). To apply this to the theory of equity sensitivity, a benevolent is someone who desires to put more into their workplace in comparison to those around them who have similar job duties and responsibilities. Entitleds are individuals who want to get more from the organization in comparison to those in similar jobs performing similar organizational functions. Equity sensitives want to give more and get more than those in similar positions. As well, equity indifferents are more inclined to scrape by in the workplace, trying not to give as much as comparison others and also not concerned with obtaining as much either. Thus, a major issue with the current study is that the measurement items for the EPQ do not include any information addressing the social comparative aspect of the perceptions of equity, limiting the interpretability of the results. This issue could be addressed by implementing a relative item scaling system (Goffin, Jelley, Powell, & Johnston, 2009; Olson, Goffin, & Haynes, 2007).

A third limitation in the current investigation is related to the results of the correlational analysis conducted in Study 2. Some results that were found to be significant could be more a result of the large sample size than a relation between two variables. This can be deduced from examining the reported effect sizes for each correlation (e.g., Hypothesis 3). Therefore, it is proposed that some of the findings should be interpreted cautiously.

A fourth limitation involves the use of a student sample. Although it can be assumed that participants would have experience in work groups or teams from their

secondary school education, and/or from any work experience they have had, their experience may not fully emulate teams (e.g., project teams or parallel teams) that are implemented in the workplace. Although this limitation influences the generalizability of the current findings, Highhouse and Gillespie (2009) argue that the use of a student sample such as the one used in the current investigation is a beneficial starting place for future research.

**Future Research**

It is first recommended that research be conducted using students who have gained experience working in a team environment. For example, business and engineering student courses often include a work group component that requires individuals to work in a team to improve their teamwork skills. Moreover, these individuals will also receive a team grade for their project(s) creating an environment that is more interdependent and similar to a team environment in the workplace. Thus, it is recommended that future research examining equity sensitivity, teamwork self-efficacy, and team reward attitudes be performed with students with greater experience working in a team.

Another future research opportunity is to conduct a 2 X 2 X 2 ANOVA laboratory experiment to investigate the interaction between the three independent variables. This will help avoid the statistical limitations of moderated multiple regression and simple slopes post-hoc analyses and improve the generalizability of the results to the population. The current study examined continuous measures of each construct and examined their relations using a multiple regression analysis. Thus, the results are sample specific and lack the generalizability of an experimental design that manipulates the independent variables and uses random assignment for the different conditions. It is therefore

proposed that future research manipulating the independent variables such that there are high and low levels of input, outcome and teamwork self-efficacy be performed.

Future research should also be conducted with an actual work sample. Utilizing a work sample will improve the inferences that can be made from the current research question. Replicating the current findings in a sample closer to the target sample (i.e., people working in teams) will improve the ability to generalize the findings and add validity to the inferences made from the findings. The proposed theory is in regards to equity sensitivity in the workplace domain and the teamwork self-efficacy and team rewards are specific to working in a team environment. In congruence with Highhouse and Gillespie (2009), after an initial investigation such as the current study, it is important to gather information from a sample that is more similar to the desired domain to improve the generalizability of the findings and the development of future theory. It is important to note that to be able to conduct this investigation, the measurement of the constructs would have to be improved. For example, the Equity Preference Questionnaire has shown to be influenced by social desirability when measured with a work sample (Sauley & Bedeian, 2000).

The last future research direction is to develop a new measure of equity sensitivity. As was previously identified, the current measures are limited by their theoretical, unidimensional approach to the measure equity sensitivity. Recent research (e.g., Miller, 2009; Taylor et al., 2009), as well as the current investigation, has found statistical support for a bidimensional approach to equity sensitivity consisting of two dimensions: input orientation and outcome orientation. Moreover, theoretical research (e.g., Davison & Bing, 2008) has also argued for the bidimensional approach to

measuring equity sensitivity. Thus, to improve the measurement of equity sensitivity a measure should be developed with a bidimensional approach as the major premise of item generation. Moreover, to address the comparative nature of the perceptions of equity in the workplace, it is recommended that a relative percentile scale method be utilized for item scaling. Although this may make item generation more challenging, research has shown that the social comparative aspect of the relative percentile method can improve the measurement of both attitudes (Olson et al., 2007) and performance (Goffin et al., 2009). Moreover, a relative percentile method is commensurate with Adams' (1965) equity theory, which proposed that perceptions of equity were in relations to others. Thus, it is recommended that incorporating the relative percentile method will improve the measurement of equity sensitivity.

## Conclusions

Overall, the current research makes two major contributions to the literature. First, it has been debated whether equity sensitivity is a unidimensional or bidimensional construct. Study 1 used a confirmatory factor analysis to investigate this issue and found support for a bidimensional approach to measuring equity sensitivity using the Equity Preference Questionnaire. This result is congruent with recent research by Davison and Bing (2008), Miller (2009), as well as Taylor et al. (2009), although only Miller (2009) and the current study used the most psychometrically sound measure of equity sensitivity. Thus, it is argued that investigations of equity sensitivity should use the bidimensional approach. Moreover, when investigating the four equity sensitive types (i.e., equity sensitives, entitleds, benevolents, and equity indifferents), it has been recommended that researchers examine the interaction between the two proposed dimensions (Davison &

Bing, 2008; Miller, 2009). To my knowledge, the current investigation is the first to use the bidimensional approach when investigating relations with equity sensitivity.

The second contribution of the current investigation is in regards to team rewards. DeMatteo et al.'s (1998) review of the team reward literature identified a need for an increase in research that investigates the relations between individual differences and team reward preference. Study 2 examined the relation between individuals' equity sensitivity and their attitude towards a team reward and whether this relation was affected by individuals' confidence in their ability to work well in a team. It is suggested that organizations that incorporate a team reward as a part of their compensation system consider the role that individual differences in equity sensitivity will play in the workplace, as employees' equity sensitivity orientation may influence their satisfaction with a compensation system that is highly dependent on team rewards. For example, when benevolent individuals and entitled individuals have low confidence in their ability to perform well in a team they also have a less positive attitude towards a team reward and thus, may have less job satisfaction. Moreover, equity indifferent individuals may be more likely to free ride and engage in social loafing while working in a team, thus negatively affecting team effectiveness, whereas equity sensitives have a generally positive attitude towards a team reward irrespective of their teamwork self-efficacy.

In addition, the current results suggest that improving individuals' teamwork self-efficacy might increase entitleds' and benevolents' attitudes towards a team reward. Thus, it seems reasonable to recommend that organizations that use team rewards provide teamwork skills training to increase employees' confidence in their ability to perform well in a team. Although these findings have interesting implications for rewarding teams

in organizations, it is clear that future research investigating equity sensitivity and other individual differences in team reward attitudes is required.

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# Appendices

## Appendix A

### Equity Preferences Questionnaire (Sauley & Bedeian, 2000)

*Please **circle** the number that best represents your agreement with each statement.*

1. I prefer to do as little as possible at work while getting as much as I can from my employer.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

2. I am most satisfied at work when I have to do as little as possible.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

3. When I am at my job, I think of ways to get out of work.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

4. If I could get away with it, I would try to work just a little bit slower than the boss expects.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

5. It is really satisfying to me when I can get something for nothing at work.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

6. It is the smart employee who gets as much as he/she can while giving as little as possible in return.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

7. Employees who are more concerned about what they can get from their employer rather than what they can give to their employer are the wise ones.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

8. When I have completed my task for the day, I help out other employees who have yet to complete their tasks.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

9. Even if I received low wages and poor benefits from my employer, I would still try to do my best at my job.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

10. If I had to work hard all day at my job, I would probably quit.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

11. I feel obligated to do more than I am paid to do at work.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

12. At work, my greatest concern is whether or not I am doing the best job I can.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

13. A job which requires me to be busy during the day is better than a job which allows me a lot of loafing.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

14. At work, I feel uneasy when there is little work for me to do.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

15. I would become very dissatisfied with my job if I had little or no work to do.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

16. All other things being equal, it is better to have a job with a lot of duties and responsibilities than one with few duties and responsibilities.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |

## Appendix B

### Teamwork Self-Efficacy Scale (Weyhrauch & Culbertson, 2011)

*For each item, please **circle** the number corresponding with how you would expect yourself to perform as a member of a work (or group project) team.*

1. Work with others to achieve a common goal.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

2. Be a good team player.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

3. Complete team tasks.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

4. Effectively coordinate my work with teammates.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

5. Provide assistance to my teammates, even if my own tasks are completed.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

6. Objectively evaluate my teammates' ideas.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

7. Evaluate my team's progress throughout a project.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

8. Identify when a teammate is in need of assistance.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

9. Find common ground between my interests and those of teammates.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

10. Work well with others to find solutions to unexpected problems.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

11. Plan a strategy for task completion with my teammates.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

12. Commit myself to achieving my team's goals.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

13. Accomplish difficult tasks that require two or more people relying on each other.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Poor | Fair | Neutral | Good | Very Good |

Appendix C

Team Reward Attitude (Shaw, Duffy, & Stark, 2001)

*Please **circle** the number that best represents your agreement with each statement as a member of a work (or group project) team.*

1. It makes sense to give rewards to team members based only on the overall performance of the team.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

2. A team member's rewards should be based only on the team's performance.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

3. Teams perform better when all team members get the same rewards.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

4. When working on a team, I prefer the rewards to be based solely on team performance.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

5. It's not fair to give every team member the same rewards regardless of how each person performs.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

6. I like to be rewarded based solely on my performance, not the team's performance.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

7. Team members work hard when they are rewarded equally.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

8. Members of my team should share equally in the team's successes and failures.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

9. I exert more effort when rewards are based solely on the team's performance.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | Disagree | Somewhat Disagree | Neutral | Somewhat Disagree | Disagree | Strongly Disagree |

# Appendix D

## Ethics Approval Form

**Department of Psychology** The University of Western Ontario
Room 7418 Social Sciences Centre,
London, ON, Canada N6A 5C1
Telephone: (519) 661-2067Fax: (519) 661-3961

**Use of Human Subjects - Ethics Approval Notice**

| | | | |
|---|---|---|---|
| **Review Number** | **11 09 28** | **Approval Date** | **11 09 16** |
| **Principal Investigator** | **Mass Testing** | **End Date** | **11 12 10** |
| **Protocol Title** | **Mass Testing** | | |
| **Sponsor** | **n/a** | | |

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

The PREB is a sub-REB of The University of Western Ontario's Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario. (See Office of Research Ethics web site: http://www.uwo.ca/research/ethics/)

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the University's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the PREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of research assistant, telephone number etc). Subjects must receive a copy of the information/consent documentation.

Investigators must promptly also report to the PREB:
a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
b) all adverse and unexpected experiences or events that are both serious and unexpected;
c) new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to the PREB for approval.

Members of the PREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the PREB.

Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2011-2012 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and TBA (Graduate Student Representative)

CC: UWO Office of Research Ethics

*This is an official document. Please retain the original in your files*

**Curriculum Vitae**

| | |
|---|---|
| **Name:** | Hayden Woodley |
| **Post-secondary Education and Degrees:** | York University<br>Toronto, Ontario, Canada<br>2002-2008 H.B.A.<br><br>The University of Western Ontario<br>London, Ontario, Canada<br>2010-in progress M.Sc. |
| **Honours and Awards:** | Western Graduate Researcher Scholarship<br>2010-2011, 2011-2012<br><br>Ralph S. Devereux Award<br>2010-2011 |
| **Related Work Experience** | Research Assistant<br>York University<br>2007-2010<br><br>Instructor<br>York College of Business<br>2008-2010<br><br>Teaching Assistant<br>The University of Western Ontario<br>2010-present |

**Conference Presentations:**

Woodley, H., & Ducharme, M. J. (2011, June). *Inter-group social comparison and collective efficacy*. Poster presented at the annual meeting of the Canadian Society for Industrial and Organizational Psychology, Toronto, ON, Canada.

Woodley, H., & Allen, N. J. (2012, June). *The Dark Side of Equity in the Workplace*. Poster presented at the annual meeting of the Canadian Society for Industrial and Organizational Psychology, Halifax, NS, Canada.

Woodley, H., & Allen, N. J. (2012, June). *Teamwork Self-Efficacy and Team Reward Attitude*. Poster presented at the annual meeting of the Canadian Society for Industrial and Organizational Psychology, Halifax, NS, Canada.

Woodley, H. (2012, June). *Personality as a Predictor of Teamwork Self-Efficacy*. Poster presented at the annual meeting of the Administrative Sciences Association of Canada, St. John's, NL, Canada.

Woodley, H., O'Neill, T. A., Thussu, S., Marcotte, E., & Allen, N. J. (2012, July). *Group Potency and Team Performance: The Moderating Role of Cohesion*. Poster presented at the annual meeting of the Interdisciplinary Network for Group Research, Chicago, IL, United States.